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By Jonah Seifer, State of the Rockies Specialist and Former Student Fellow

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Our Mission
The State of the Rockies Project engages students, faculty, conservation experts, and stakeholders to address critical environmental and natural resource issues through interdisciplinary research in the Rockies and the American West.
Every year, Western cities face a persistent and destructive natural phenomena that is driven by both ecosystem processes, meteorology, and anthropogenic influence: wildfire. A naturally occurring function of many Western landscapes, wildfire is a key factor in maintaining the equilibrium of the forest ecosystem. A forest left unaffected by human impacts will maintain its density of trees at a stable level. Wildfires clear out layers of underbrush, reducing competition and providing nutrients to other vegetation. They also can remove entire tree stands, which in turn allows for the natural succession of forest ecosystems.

Although wildfire provides necessary maintenance for forest ecosystems, societal perceptions of wildfire in recent history has been negative, mainly due to the economic value placed on forests. The economic incentive of producing large lumber harvests led the United States to a 200 year-long regime of fire suppression. This has increased stand densities across the country to levels that are ripe for high intensity wildfires.

Living with wildfire is an inherent burden for human populations in the West, and Colorado Springs is no exception. This past summer marks the 5 year anniversary of the Waldo Canyon Wildfire, which burned over 18,247 acres and destroyed 346 homes. Today, homes are still being built in the same area that Waldo burned, and as the landscape is recovers, the uneasiness that the fire instilled in residents of the wildland urban interface (WUI) retreats. Despite these fading anxieties, the potential for similarly catastrophic fires remains in the WUI, which is defined as the margins between wildland areas such as national forests, and areas with human infrastructure such as housing developments.

Wildfires impose costly and sometimes lethal consequences for our infrastructure, homes, natural resources, and the lives of emergency responders and private citizens alike. Furthermore, the ramifications of a wildfire last longer than the burn itself: burn scars significantly alter the hydrology of a landscape, influencing floods and debris flows downstream. Erosion induced by fire can flood roads, homes and most notably can threaten the quality of our water supply with increased sedimentation and chemical transport. This, in turn, affects aquatic ecosystem health and can significantly damage reservoirs and water treatment plants. With the rising costs and damages of wildfires and the increased fuel loads in Colorado’s Front Range, we (Matt Valido ’18 and Alex Harros ’18) set out to qualitatively and quantitatively investigate wildfires affecting Colorado Springs.

By studying the Front Range’s recent wildfire history, we are able to track the evolution of wildfire consequences and management, and distill those lessons learned. Further, by using remotely-sensed data from past wildfire events, our research attempts to quantitatively predict and model where the next wildfire could potentially occur in the Colorado Springs WUI. Our research culminated in a visual representation of a potential wildfire in Colorado Springs by showing the scale and intensity of that potential wildfire, as well as which areas would subsequently become flood prone. Using this model, we seek to better prepare ecosystem managers, emergency personal, local stakeholders and citizens to further stimulate conversations between and influence behavior of individuals living in fire-affected ecosystems.

Over the past two decades, the Pikes Peak region has become familiar with the consequences of wildfires after
experiencing numerous destructive, high profile burns. Starting on June 8, 2002 and lasting until July 18, the Hayman Wildfire demonstrated the enormous destructive potential for wildfires in terms of size and intensity by burning 138,114 acres of Pike National Forest. The fire burned so intensely in areas that the land was decimated of any vegetation, ‘moonscaping’ vast swaths of land (see Figure 1). At the time, the Hayman Wildfire was the worst fire in Colorado’s modern history and acted as a wakeup call to emergency personnel and ecosystem managers. In total, 133 homes were destroyed and 6 individuals lost their lives as a result of the fire. Though the Hayman burn would eventually be surpassed in terms of damage and cost, many insights can still be distilled from the burn event and response.

The scale and intensity of the fire can be directly attributed to forest characteristics and climatic conditions at the time of the burn. Fuel load, stand density, and stand continuity all played a role in the spread and extreme intensity of the burn. Like many other Western forests, Pike National Forest is undoubtedly affected by 20th century fire suppression, lending itself to having a vegetation density above the historical range. Although wildfires occur even within historic forest conditions, consideration of fuel load and structure are of critical importance.

Second, the summer of 2002 marked the fourth year of acute drought in Colorado, making vegetation moisture extremely low and burn prone. Research has found that anthropogenic climate change is making wildfires increase in both frequency and magnitude; as mean global temperature continue to increase, drier and hotter climatic conditions in the West will exacerbate wildfire events.

Lastly the Hayman Wildfire shows the cost of a wildfire spans many years after the burn is extinguished. Cheesman Reservoir, a major drinking water source for the city of Denver, is a prominent physical boundary of the burn scar’s northern edge. Since then, the Denver’s water utility company, Denver Water, has spent over $27 million in restoring their reservoir systems as a result of sedimentation from around the burn scar.

Though significantly smaller in size and intensity than Hayman, the Waldo Canyon Wildfire was much more destructive on a cost-per-acre basis. Lasting from June 23rd, 2012 to July 10, the fire consumed 18,247 acres, burned 346 homes, and took the lives of two individuals. The damage of the Waldo Canyon fire was due to its proximity to the Colorado Springs wildland-urban interface. Likewise, wildfires behave independently from jurisdictional boundaries: the Waldo Canyon fire ignited within the boundaries of Pike National Forest but spread into adjacent Colorado Springs neighborhoods, US Highway 24, and Colorado Springs Utilities’ Rampart Reservoir. Following the evacuations of thousands of people, some neighborhoods were spared by the fire due to

**Figure 1:** The Hayman Wildfire decimated all underbrush fuel, burned most canopies and severely damaged the majority of root systems.
the effort of emergency personal and previous mitigation efforts, however other communities such as the Mountain Shadows Neighborhood were completely destroyed.

The most notable takeaway from the Waldo Canyon fire are the challenges presented by the WUI. With an estimated 28,000 people living in the Colorado Springs WUI, Waldo Canyon highlights the high volume of infrastructure and people vulnerable to a wildfire. Development of the WUI in Western cities will continue to increase as a major issue in wildfire management. The summer following the fire, the City of Manitou Springs experienced severe flooding due to being downstream of the newly formed burn scar, with many other communities also now at an increased risk of flooding.

The State of the Rockies research team was able to get a first-hand look at the Waldo burn scar during a field research interview with Kim Gortz of Colorado Springs Utilities and her colleagues. Ms. Gortz guided the research team through sections of burn scar encircling Rampart Reservoir, showing the recovering landscape, as well as sedimentation-control projects aimed at mitigating increased erosion. A striking feature of the burn scar tour showed recently installed flash-flood warning sensors, placed upstream of Manitou Springs, which is now at an increased risk of flooding.

In the beginning stages of developing this predictive model of potential burn severity and erosion potential, we sought to determine key features of western forests that greatly contribute to the onset of a wildfire and further determine how severely an area will burn. After reviewing different variables that are considered in established research, we then paired that information with firsthand knowledge which we personally obtained via interviews with Forest Service firefighting personnel throughout the Front Range.

As expected, we found that many people within the Front Range referred to our two model fires, the Hayman and Waldo Canyon fires. Former Pikes Peak District Ranger Brent Botts met with us in and around Waldo Canyon and shared his first-hand experience while working on the Waldo Burn. The topography of the landscape, specifically the aspect of the hills, Botts noted, played a huge role in how the fire moved. The steeper slopes burned much quicker and forced firefighters to set up defense lines at the...
tops and bottoms of canyons. Botts recalled how embers would float over the top of a slope, fall down into the canyon and then burn right back up to the top.

Brent Botts also made clear that aspect was a key factor that shouldn't be overlooked. Upon further review of literature on aspect, we discovered that north slopes tend to burn at higher severity due to the abundance of moisture and vegetation. We looked further into how heavy a roll vegetation levels play in determining burn severity and decided we needed a way to quantitatively measure this. Other research used the Normalized Difference Vegetation Index (NDVI) which essentially measures the greenness of an area.

Per Kim Gortz’s insight on debris flow and sedimentation, we also decided to incorporate a post-burn flooding analysis into our predictive model. Given how much of an impact erosional debris flows had on watersheds following Waldo and Hayman, we realized that firefighters and forest managers could potentially consider the erosional potential of areas in the path of wildfires and allocate resources accordingly.

It should be noted that our predictive burn severity model considers only the physical characteristics of the landscape. We were told time and time again that weather conditions play a huge role in how fires begin and evolve, if time and resources allowed these variables could be incorporated into our model. That being said, we were looking to create a model rooted in the physical considerations of slope, aspect, and vegetation levels. This type of model would be applicable to more areas, easier to pair with other established models and fit well with our experience in GIS. Following field research and literature review, our vision for the project was to create a predictive GIS model that renders a color-coded burn severity scale for any given point in the Colorado Springs WUI. In other words, if a fire burns, the model will predict which areas will burn hotter and then tell us where erosion is prone to occur.

It was decided, based off of first-hand experience and our review of literature, that effective variables in the burn severity model would be slope, aspect and NDVI. Following this decision, we developed a plan of how to statistically compare the role that each variable played in determining burn severity for both fires. An advantage to our selected variables lies in the fact that the raw data needed to calculate them was robust and publicly available.

First, we had to get models of burn severity for both fires. The Forest Service’s Monitoring Trends in Burn Severity (MTBS) is a research organization that maps fires and provides reputable, open source models of burn severity on a 4 point scale. MTBS has burn severity data on both the Hayman and Waldo Canyon fires using a commonly accepted method, the differenced normalized burn ratio (dNBR). We chose to use MTBS’s data as geographic extents of the Hayman and Waldo Canyon burn scars for the rest of the project. First we utilized USGS’ National Map to obtain digital elevation models (DEMs) - from which the slope and aspect of any given coordinate could be extracted. DEMs were gathered that encompassed our entire study area.

The third variable in our model is the normalized difference vegetation index (NDVI), which represents the “greenness” of an area, indicating how much live vegetation exists, and for our purposes, how much fuel is available to burn. Through manipulation of publically available satellite imagery, NDVI was calculated and corrected for atmospheric interferences for both Hayman and Waldo Canyon Fires.

Once all necessary data was collected, we merged layers containing NDVI, slope, and aspect on a pixel by pixel basis over the existing MTBS burn severity layers of the model fires. A linear model was then created by merging all data onto one Excel spreadsheet for each fire. The Hayman...
dataset alone contained over two million rows of NDVI, slope, aspect and burn severity. This immense amount of data was then input into a statistical analysis program, which was configured to create linear models for the Hayman and Waldo Canyon fire scars. These models are then capable of predicting potential burn severity of an area of interest based on the millions of burn severity, slope, aspect and NDVI points from each fire scar.

The next step was to use this model to predict burn severity in the Colorado Springs WUI. We based the WUI area of interest (AOI) off of 5 local watersheds: Ruxton, Bear Creek, Sutherland, North Cheyenne Creek and South Cheyenne Creek. The three factors necessary to run the predictive model (slope, aspect, and NDVI) were obtained and calculated through the same processes used for our model burn scars. These factors were then input into our linear equations and applied to our chosen AOI. Using this, we then rendered maps of burn severity for the entire AOI.

The last piece of this project was to highlight areas most prone to post-fire erosion and runoff. The incentive behind this was to potentially aid firefighting teams in allocating limited resources to areas that could cause the most damage post-burn. A robust indicator within ArcMap of erosive potential is the Stream Power Index (SPI). This takes into account slope and how much stream water feeds into any given point, thus estimating the power of water coming through an area. To combine SPI with the already rendered burn severity, both were multiplied in a map layer calculator tool. The calculation yielded 16 values ranging from low burn severity and low SPI to high burn severity and high SPI. To highlight the most problematic areas and to make this map more digestible, we filtered out all but the values 12 and 16. This showed just areas of mid or high burn severity that also have a medium or high SPI. In effect, the areas that are not extremely problematic are not included.

Though the actual behavior of a potential wildfire will not be confined to geometric squares and polygons, our models provoke a heavy reality for Colorado Springs: communities in the WUI are at direct risk from wildfire and Colorado Springs as a whole will be burdened with the lasting implications from these inevitable fires. Throughout our research experience, a commonly echoed theme in wildfire management was a call for “sharing the responsibility,” a sentiment which is undoubtedly true. For an issue that behaves unconfined by the jurisdictional boundaries that separate society and wilderness, living with wildfire mandates the need for collective action of all stakeholders and honed policy addressing a future with hotter, more frequent wildfires.

Matt and Alex’s full report will be included in the 2018 State of the Rockies Report.
Figures 7 and 8: Composite burn-severity and erosive potential rendered over watersheds from our AOI. Downstream communities, which are generally northeast of areas with high burn severity and erosive potential, are at the greatest risk of post-fire flooding and debris flows.

Figure 9: The succession of aspen trees 15 years after the Hayman Wildfire is apparent in the Lost Creek Wilderness. Aspen are often the first trees to return after a major disturbance like a wildfire and will eventually be replaced with conifers.
Sitting in a transitory Bureau of Reclamation office on a rainy Durango morning, I ask myself, “How did I get here?” Early for my meeting, the feeling of being out of place is reinforced by looking at the name tags of empty seats around me, lying in wait for representatives from ‘Santa Clara Pueblo,’ ‘Laguna Pueblo,’ the ‘Ute Indian Tribe,’ and about a dozen others. I’m somewhat relieved by the arrival of Dr. Holly Norton, the State Historical Preservation Officer (SHPO), my field contact and purveyor of my ‘invitation’ to the meeting. In what would become a full day of field visits and open-panel discussion, I take a deep breath and ready myself to observe an event I had spent the last several months studying from afar – a **Tribal Consultation**, live and in the flesh. Formal consultation serves as an opportunity for tribes to submit their opinions on proposed projects that overlap with ancestral territories and Indigenous cultural resources.

During the penultimate week of my summer research fellowship with the State of the Rockies, travelling to Southwestern Colorado and the Durango area was the summative field experience of my research tenure. For the eight weeks up to that point, I investigated the social, cultural, and political impacts of public lands management on Indigenous peoples of the Pikes Peak Region. An early obstacle to research – the absence of a consolidated or politically organized Indigenous community in Colorado Springs – soon became a driving force behind my work. My research would come to examine the effects of cultural displacement on Indigenous peoples.

Despite their resounding historical tie to Pike’s Peak, federally recognized tribal governments have an extraordinarily tenuous grasp over cultural resources in the area. The closest such tribe, the ‘Southern Utes’ live six hours away, which creates a critical impasse where a lack of time, resources, and energy often prohibits access to cultural resources or the ability to sufficiently participate in politics surrounding ancestral lands. The situation is even more dire for tribes living across state lines, many of whom exist in increasingly difficult economic circumstances.

The city of Durango was preparing to build overflow parking for the recently designated ‘Lake Nighthorse Recreation Area.’ In what was once the site of extensive Indigenous settlement for centuries now stands a man-made reservoir which will soon be opened for seasonal recreational boating and paddling. This consultation, administered by the Bureau of Reclamation (BoR), gives tribal governments the opportunity to voice dissent or propose mitigation strategies for the parking area that borders a high volume of archeological sites.
A valuable exercise, the initial feeling of legitimacy inspired by seemingly ‘progressive’ government action belies the basic injustice that fills the background of most government-to-government interactions between the United States and tribes. The U.S. is willing to concede some level of mitigation; pushing the boundaries back, moving the proposed site, placing a few cautionary signs, etc. Very seldom is the outright cancellation of the project considered, regardless of how egregious its implications are to the Indigenous community.

The Dakota Access Pipeline Project is the most visceral example in recent memory, with heavy machinery rolling over ancestral graves despite fervent opposition and protest. Under no uncertain terms would any mitigation of the pipeline be considered ok. Lake Nighthorse mirrors this pattern of irreverence; given how commonplace ‘scary stories about haunted houses’ built on Indian graveyards are in American culture, one would think there would be more than just a little consternation over racing jet skis and piloting motorboats on top of a sunken Indigenous city home to thousands of burial sites. Also known as ‘Dead Water’ (Briggs, personal communication 2017), travelling in or consuming water that contains remains is impermissible as it disrespects the resting ground of ancestors. Even consultation “done right”—like in the case of mitigating damage from overflow parking—does not sufficiently meet the needs of Indigenous audiences, as it often ignores larger and more prevailing historical injustices.

No matter what the tribal representatives say or how hard they push back, there is no way to effectively stop the encroachment of U.S. government and recreation interests onto their ancestral territory. Ricardo Ortiz, representative for ‘Pueblo of San Felipe,’ very poignantly said, “we will talk about it tomorrow, and the answer will still be no” (Ortiz, personal communication 2017) Even still and somewhat surprisingly, the atmosphere in the room is reasonably amicable, Ricardo transitioning into a joke about scaring off looters, suggesting that the city build a statue of him with a bow and arrow in the center of the lot. This type of self-satire serves as both a relief, as well a window into underlying sources of tension.

There is an acceptance that consultation can do relatively little to match the full demands of tribes (most often, stopping the project completely), so they acquiesce and leverage their legal rights to achieve the maximal amount of mitigation (avoiding high-volume archeological sites, special signage, sensitivity instructions for workers, etc). Beyond the concession, the inevitability of acquiescence in tribal consultation is particularly heartbreaking. Still, many figures, especially senior tribal representatives, are especially vocal regarding the nature of consultation. Betsy Chapoose of the ‘Ute Indian Tribe’ of Northern Utah put forth very directly that, “consultation is about making non-Indians feel better” (Chapoose, personal communication 2017). The U.S. government gives tribes a mostly ceremonial voice in management decisions to assuage the guilt of the colonial class while still allowing them to pursue (relatively) unfettered capital projects—sometimes, consultation turns into just “checking a box.”

Tensions over historical injustice and the unstated travesty of Lake Nighthorse begin to flare on our site visit. Tribal representatives are incredibly outspoken about areas where they have some say in decision-making. This includes clearly marking the perimeter of the parking project and expressing concern about the project’s proximity to cultural objects, effect on access to wild foraging, and the sustainability of a walking path along easily eroded regions.

Even where tribes are denied a full seat at the table, they refuse to be silenced. The attitude of Indigenous representatives shows they are unwilling to accept
the expectation of being a vulnerable and bedraggled people that deserve an honorary place on a museum shelf. Indigenous peoples exercise a vibrant will towards civic participation and, having observed their level of engagement first hand, this gives hope for a more effective model of public land co-management.

Federal legislation exists which is intended to legitimize the standing of tribal governments in relation to cultural resources on ancestral lands, most notably the National Historic Preservation Act (NHPA) and the Native American Grave Repatriation and Protection Act (NAGPRA). What naturally ensues from these policies is a complex network of diverse policy actors from the local, state, federal, and tribal levels with overlapping (and often confounding) jurisdictions. Effectively navigating this policy apparatus requires time, resources, and exhaustive institutional knowledge. Despite largely good intentions, this bureaucracy often fails to achieve its primary objective of adequately taking into account Indigenous interests and world views. As much as organizations such as the National Forest Service, Bureau of Reclamation, local governments, and state offices are tied into the process and, indeed, make genuine effort at tribal engagement, management outcomes are often inadequate—they fail to fully accommodate project planning around Indigenous interests. Shortages of time, power, and money are the easy explanations and deserve ample attention, but there too exists more abstract, systemic flaws that supersede the availability of material resources.

The United States’ policy structure and style of conducting government-to-government interactions adheres to an inherently Western perception of knowledge; i.e. a belief in linear outcomes, a fixation with absolutism, and an unwillingness to accommodate other views that fail to prioritize ‘the bottom line’. Tribal consultation, as it often takes place, is composed of the U.S. federal government making an attempt at ‘compromise’ by implicitly forcing Western perceived values on an Indigenous audience. Even if there is a level of equanimity from the American perspective, there is a critical absence of equity from the Indigenous point of view. Here, the imposition of western political structures on tribes resembles the perpetuation of colonialism.

For tribal consultation to be successful, U.S. government officials have to meet Indigenous peoples where they stand – on their ground – according to Indigenous views on place, space, and resources. There is no value on an object or event, from an Indigenous perspective, unless taken alongside its context. As western readers, there is an impasse of understanding, where—to take that next step forward—we need to extend ourselves past the initial point of discomfort and acquire a sensitivity towards a fundamentally different worldview.

The ancestral past occurs alongside the present, and the lands upon which ancestors once lived take on special meaning because they have never left and never will leave. An arrowhead taken from the ground has no meaning unless considered with the context of neighboring trees and wildlife – past and present – the view of the horizon, and the stars that predictably shine from the seasonal sky. Consultations are often inadequate because they fail to account for this type of Indigenous worldview.

Storing ‘artifacts’ on a shelf displaces their meaning – Indigenous culture becomes a relic, something that has long since died and has to be dug up to be remembered. The American insistence on ‘preserving the past’ implicitly denies Indigenous peoples their right to live in the present. American Indians do not deserve to be put up on a shelf—better consultation practices can be a vehicle to rectify the impasse between Western and Indigenous worldviews.
Researching cultural resource management of ancestral lands requires casting a large geographic net and my summer fellowship gave me extensive opportunities to travel all over the state. That said, no matter how ‘delocalized’ my fieldwork became, the driving questions for were always tied back to the Pikes Peak Region.

Functionally, Lake Nighthorse and Pikes Peak have a few critical similarities, most notably their relevance to a similar group of ancestral peoples and their contemporary role as rapidly expanding and highly trafficked recreation areas. Tribal Consultation gets less attention along the Front Range than the Four Corners Region, but not from a lack of necessity. The absence of nearby reservations and a politically organized Indigenous community (the last free-roaming ancestral tribes were relegated to reservations after the ‘Ute Removal Act’ of 1880) have allowed some Colorado Springs residents to adopt an attitude of complacency towards local Indian affairs. According to the City Archeologist, Colorado Springs makes efforts to consult with at least 30 tribes regarding the implementation of projects neighboring known archeological sites.

The work being done so far is good, but it is not enough. There is a critical disconnect between dislocated Indigenous peoples and accessibility to cultural resources in ancestral territory. ‘Mitigation,’ in a traditional sense, is understood as minimizing harms. ‘Creative mitigation,’ a term thrown around often by policy workers and Indigenous advocates, aims to provide solution that not only reduce negative consequences, but provide resources that are beneficial to Indigenous communities and consistent with their worldviews. For instance, instead of just moving the path of a planned trail development away from a culturally significant site, a ‘creative mitigation’-minded doctrine would push for providing educational programming to bridge the gap between Indigenous youth, their living-heritage, and far away ancestral territory.

In the end, however, there is no perfect solution for the co-management of cultural resources on public lands. Indigenous peoples have been dislocated and their ancestral lands marred by colonial settlement and extractive resource industries. There is no means of relieving ‘white guilt’ or offering complete ‘restorative justice.’ By creating a more robust infrastructure for tribal consultations, we achieve a more tangible goal of building a bridge for tribal communities to connect with ancestral lands and engage in meaningful co-management with the U.S. government and Colorado state agencies. There is a Ute saying, “When forever comes, we will be here”. Engaging in efficient tribal consultation and co-management strategies will help turn that statement from prophecy into a reality.

Nate’s full report will be included in the 2018 State of the Rockies Report and supplementary materials will be published through Cipher and other campus and community venues.
Eight hours of driving through some of the Southwest’s premier landscapes lends itself to a generous block of high-quality contemplation. This particular pilgrimage from Colorado’s Front Range to the climbing mecca of Indian Creek, Utah could not have come at a more apt time. My first winter as a “young professional” had left me hungry for the spiritually soothing qualities of the desert. I make a point of doing this as regularly as possible, for medicinal reasons: immersion in this ancient landscape provides a most visceral sense of space, time, and self that is conducive to maintaining sanity in an increasingly disharmonious world.

All of the standard fixings of a good time were packed into the trunk of my dusty Subaru: food, water, fuel, and climbing gear. Identify the essential, and eliminate the rest. I’ve participated in this ritual exodus for years now, but one major difference defined this particular trip. Since my last visit nearly a year prior, the land I was heading towards had been formally declared as Bears Ears National Monument under the Antiquities Act of 1906. This long-awaited National Monument, an area of highly protected public land which President Obama designated in December of 2016, was hardly a surprise: Bears Ears National Monument is the culmination of decades of attempts at protection and thousands of federal consultations with tribal leaders, local community members, Utah lawmakers, and others.

Similarly unsurprising was the speed with which the new Trump administration sought to undo Obama’s legacy. As I proceeded west and the landscape began to transform into the inviting amber colors of canyon country, Trump’s most recent Executive Order (EO) occupied the forefront of my mind. Trump’s 28th EO in just 94 days as President, instructs the Secretary of the Interior to conduct a 120 day review of 27 National Monuments designated in the past two decades. The review was purported to more properly account for the desires of the local communities whom the current administration claims are victims of government overreach. Despite this, the text of the EO weakly disguises its true intents behind an egregious string of “alternative facts:”

Right: The Bears Ears National Monument lies south and east of Canyonlands National Park and also contains Cedar Mesa, which boasts a high concentration of Native American archaeological sites. Source: Grand Canyon Trust
“Monuments create barriers to achieving energy independence, restrict public access to and use of Federal lands, burden State, tribal, and local governments, and otherwise curtail economic growth.”

Details forthcoming, these claims are objectively false. I would have hated to squander the brilliant drive worrying about this though. After all, I was comforted by the knowledge that the State of the Rockies Project’s 2017 Conservation in the West Poll found that four out of five western voters would prefer to maintain our National Monument designations. This trend quickly revealed itself during the public comment period. Furthermore, the Federal Land Policy and Management Act of 1976 prohibits the executive branch from modifying any lands designated under the Antiquities Act of 1906; that power is reserved for Congress. Despite these promising conditions, the dawning reality of post-truth politics and the recent confirmation of Ryan Zinke as the Secretary of Interior left me profoundly disquieted.

On the surface, Ryan Zinke is an archetype of a dedicated public servant. A former congressman, member of the Montana State Senate, and Navy SEAL of 23 years, Zinke self-identifies as a conservationist in the mold of Theodore Roosevelt, the President responsible for the Antiquities Act. However, Zinke’s voting record shows that this claim belongs in the “alternative facts” category as well - similarities between Roosevelt and Zinke do not extend farther than their respective military service and mutual love of hunting.

In Zinke’s first six months in office, he staffed the Department of the Interior (DOI) primarily with former executives from extractive industries. Some of these appointees, such as Matthew Adams, the former Vice President of Cloud Peak Energy, also happen to be major donors and have previously received preferential treatment from Zinke. In one instance, Cloud Peak Energy bankrolled Zinke’s campaign to allow coal companies to divert royalties from the federal government and back into their own pockets. Today, Matthew Adams advises Zinke on federal royalty policies. Zinke has also demonstrated an overt willingness to undermine the National Environmental Policy Act, disregard Native American treaty rights, and lower transaction costs for selling off public lands despite his own claims that such transfers are unwise.

Only three of Zinke’s appointees represent conservation or recreation interests, and a plethora of DOI positions remain unfilled, so understandably Zinke’s review of National Monuments faced serious challenges from the outset. The immense scale of the task combined with Trump’s request for a rapid turn-around meant Zinke only visited 8 of the 27 monuments under review. This, in itself, would be impressive had Zinke comprehensively assessed each monument that he decided to visit. These monuments, each chosen because they are over 100,000 acres and designated since 1996 (not so coincidentally, the year that President Clinton designated the Grand Staircase-Escalante National Monument), contain some of the United States’ most complex cultural and natural landscapes. A truly fair review of just a singular monument and
its myriad ecosystems, sovereigns, and stakeholders could easily take years to complete.

In the case of Bears Ears National Monument, numerous tribes maintain that over 1.9 million acres of land in and around the 1.3 million acre monument contain their ancestral homelands. The existence of over 100,000 archeological sites corroborates this claim. The area is deeply sacred to tribal members to the extent that its significance cannot be overstated. My rudimentary, academic understanding of a few Indigenous peoples’ relationships to land and their “sense of place” suggests that the spiritual-religious qualities of this area are at the core of their being and inseparable from their very humanity. One particularly illuminating proverb known to the Indigenous Maori tribes of Aotearoa (New Zealand) expresses this profound interconnection by saying, “I am the river, and the river is me.” Failing to protect these cultural resources would constitute a spiritual trauma well beyond the capacity of Zinke, or any western outsider for that matter, to fully comprehend.

It seems, however, that Zinke at least attempted tribal consultation - if only to “tick the checkbox” and claim he worked with tribal leaders. Bears Ears Inter-Tribal Coalition, the group of tribes which initially submitted the formal request for protection to President Obama and is now tasked with managing the monument, managed to meet with Zinke for 90 minutes during his four month review. While Zinke claimed “in talking to tribal leadership... they’re pretty happy and willing to work with us,” Davis Filfred, a Navajo Nation Council Delegate, went on record as saying: “I haven’t been happy with [Secretary Zinke] since day one. I don’t know what that word happy is,” (Westwise, 2017).

Perhaps compounding Davis Filfred’s frustration was the knowledge of what Zinke was doing with the remainder of his two day review: meeting with over two dozen executives from oil and gas firms. Despite the questionable economic viability of fossil fuel deposits in the area, Zinke ensured that the industry’s voices were heard. Recall the original EO: “monuments create barriers to achieving energy independence...and curtail economic growth.” Not only are preexisting drilling rights and mineral leases grandfathered into the monument, but President Obama intentionally excluded nearly 600,000 acres of land from the monument designation expressly for the purposes of OHV recreation, mining, quarrying, and other extractive industries.

In addition, an analysis by Headwaters Economics concluded that, compared to communities without public lands, western communities with protected public lands have faster job growth and earn an average of $4,360 more in per capita income. While a causal connection has not

Figure 3: Prehistoric Granary overlooks Cedar Mesa. Bears Ears National Monument encompasses over 100,000 archeological sites such as cliff dwellings or this granary. Source: Josh Ewing

Figure 4: Petroglyph graces the Comb Ridge. Petroglyphs satisfy a plethora of ancient and contemporary uses such as communication, ceremony, and even mapping. Source: Josh Ewing
yet been established, these statistics are hard to ignore when no county in the analysis experienced economic decline following nearby monument designations.

This review process was purported to elevate marginalized voices such as rural communities or tribes. One of the greatest hypocrisies, however, is that Zinke declined to meet with key representatives from local communities such as the Boulder-Escalante Chamber of Commerce. They invited Zinke to meet and discuss the value of National Monuments to their business community, but were never given the opportunity to do so. Though Zinke did spend 90 minutes consulting representatives from the Bears Ears Inter-Tribal Coalition, this level of engagement belies the 80 years of advocacy that these tribes have poured into ensuring the perpetual protection of their ancestral homeland.

Consistent with Zinke’s past record is the way in which he reported on his expedited review. The original EO requested Zinke submit a final report after 120 days, but instead he passed a draft memo to President Trump. The public was only made aware of the memo’s content just before before National Public Lands Day when it was leaked, page by page, via hazy cell phone photos. Reading the memo reveals why Zinke may not have wanted it in public hands; it has the qualities of a hastily written school essay that was started on the day it was due. This, combined with Zinke’s decision to not ask federal land managers to fact check the memo, led to a document that epitomizes the era of “alternative facts” and post-truth politics. Such a document could easily mislead Trump into making uninformed decisions, despite his dubious authority to do so.

Some notable, factual errors in the memo include references to various monuments’ management plans. These plans are fundamental to how federal managers protect and maintain public lands, and therefore would be critical to a comprehensive review. Zinke’s references, however, are wholly inappropriate; many of these management plans do not exist and yet Zinke suggests that he had read them. Ironically, many of these management plans were being developed prior to Trump’s EO and land managers had to suspend management planning until the review process concluded. The memo also fails to accurately portray basic geographic realities, such as the size of monuments, where they are located, and if the monument features any roads. The memo even concedes that monument designations lead to increased tourism revenue, but that this revenue does not compensate for the increased costs of maintenance, unnecessarily burdening the federal budget. The language of this section seems to imply that abolishing monuments would reduce visitation and its impacts, thereby eliminating the budgetary burden.

Portions of the memo attempt to inflate the executive branch’s power - numerous instances refer to the “lawful exercise of the President’s discretion [to modify monuments] granted by the [Antiquities] Act.” This “lawful discretion” does not exist and, in fact, there is explicit legal precedent to the contrary: when President Franklin Roosevelt considered abolishing a monument in 1938, his Attorney General said, “the grant of power to execute a trust...by no means implies the further power to undo it.” This constraint is codified in the Federal Land Policy and Management Act of 1976 and has yet to be challenged since. Some minor monument modifications have occurred in the past, but these all preceded the Federal Land Policy and Management Act of 1976 and were not as dramatic as Zinke’s recommended modifications.

Zinke’s memo places very little emphasis on over 2.8 million public comments - 99% of which were overwhelmingly opposed to any monument modifications according to two analyses. Zinke was quick to minimize this monumental demonstration of civic participation by claiming that the vast majority of comments resulted from campaigns by NGOs. In an attempt to delegitimize advocacy campaigns like these Zinke said, “too often it is the local stakeholders who lack the organization, funding, and institutional support to compete with well-funded NGOs.”

Robert Gehrke, a Salt Lake Tribune journalist, best summarized Zinke’s previously secret memo: “it dutifully rehashes all the anti-monument talking points, dismisses the public sentiment in favor of national monuments generally and sprinkles in some pretty glaring misstatements.” Ultimately, the Trump administration’s intentions were made resoundingly clear. Notwithstanding overwhelming public sentiment, the irrefutable rights of sovereign Indigenous peoples, and objective facts, Trump and Zinke
seek to placate a small, but extremely vocal, constituency that views monument designations as heinous instances of federal government overreach.

Catering to that constituency serves a multitude of political agendas. In calling for the review and reduction of monuments, Trump is able to frame public lands in a negative light, opening the doors to reduced protections or even land transfers from the federal government to state hands. This would satisfy anti-federal government sentiment and could enable an expansion of fossil fuel development. A more recently leaked DOI five-year strategic plan substantiates this: the plan calls for a new “Executive Committee for Expedited Permitting” that would facilitate oil and gas leasing on public lands. This aligns with Trump’s oft-repeated objective of “energy dominance,” appeasing his base and extractive industry lobbyists who played a major role in Zinke’s review. In doing so, Trump cultivates his favorite resource: loyalty.

Loyalty. While Trump is loyal to the power of false narratives, I and many others are loyal to the power of nights spent among giant desert sandstone towers and fragrant sagebrush. My most recent opportunity to visit Bears Ears came at the end of Zinke’s review and memo leak. Despite my developing and ever more frightening understanding of the “post-truth era,” the humbling rock walls and sparkle of the Milky Way are as enchanting, and centering, as ever.

Division and litigation will inevitably follow any federal actions resulting from Zinke’s memo, but this does not concern me. Though President Trump has just announced his intention to visit Utah and shrink monuments in December, tribal governments, environmental non-profits, and sportsmen’s organizations have already been coordinating potential legal responses for months. When the inevitable comes, they will be ready. Perhaps my youthful naïveté is compounded by my biased, emotional connection to special places like Bears Ears, but a landscape that can gift us all with such a timeless and anchoring experience can surely brave shifting political winds and a maelstrom of lawsuits.

Source: Mark Toto / Patagonia