

The Environmental and Spiritual Significance of Chi'chil Bildagoteel, an Apache Sacred Site

A Thesis

Presented to

The Faculty of the Environmental Program
The Colorado College

In Partial Fulfillment of the Requirements for the Degree
Bachelor of Arts in Environmental Science

By

Emily Lucas

May 2017

Dr. Eric Perramond
Associate Professor

Dr. Jean Lee
Assistant Professor

Acknowledgements: This work would not have been possible without the help of countless people. Ahi'yihe: to the entire Nosie family, especially Wendsler and Theresa, for always treating me with love and acceptance, for becoming my family, and for teaching me what it means to be Apache. To Vernalda Grant, for her wisdom and guidance. To everyone else on San Carlos and in Apache Stronghold who has been a part of this movement. To my academic advisors Dr. Eric Perramond and Dr. Jean Lee, for your patience and invaluable assistance during this process. To Dr. Dwanna Robertson, for being a mentor and a friend. Lastly (but always first in my heart), to my family, for their love and support.

I. Introduction

Indigenous peoples across the United States and around the world are disproportionately affected by environmental issues, including mining. Mining on tribal lands has created a plethora of environmental hazards, and side effects like tainted groundwater and tailings have increased rates of diseases like cancer in indigenous communities. Furthermore, the loss of traditional territory can be culturally and spiritually devastating, even in cases where the tribal government agreed to allow mining. Despite mining companies' promises of economic opportunity, such jobs often fail to materialize, while negative consequences appear in abundance.

The combination of environmental and spiritual threats posed by mining on sacred geographies is exemplified in the struggle for Chi'chil Bildagoteel¹, or Oak Flat, a site in southeastern Arizona sacred to the San Carlos Apache Tribe that is currently threatened by an impending copper mine. Chi'chil Bildagoteel, which is located in the Tonto National Forest, was given away to international copper mining company Rio Tinto through an act of Congress in December 2014. Places such as Chi'chil Bildagoteel are both ecologically significant, and are part of peoples' "collective understanding about social identity intertwined with place meaning" (Harner 2001). Chi'chil Bildagoteel is inextricably tied to an Apache sense of identity and place, and must be protected as such.

Although the San Carlos Apache Tribe is a sovereign entity, the federal government has removed most of their ancestral homeland, including the land in question, from their control. Currently, "Sovereignty recognized by treaties and the U.S. Constitution does not

¹ The exact translation of this Apache placename contains information that should not be revealed in this paper, but the word "Chi'chil" speaks about the acorns that grow there.

represent something given to the tribe; rather, it is what tribes have retained throughout the tragic history of colonialism” (Ishiyama, 2003). However, federal and state governments have historically failed to respect tribal sovereignty. Due to tribal sovereignty’s limited nature, tribal nations are often left without a mechanism to protect sites to which they still have a historical and spiritual connection.

In this paper, I argue and demonstrate that Chi’chil Bildagoteel is as environmentally important to the human and ecological communities of Arizona as it is spiritually important to the Apache. Furthermore, its environmental and spiritual importance are intrinsically connected. I will also discuss the ways that the struggle for another Apache sacred site, Dził Nchaa Si’an, is related to protecting Chi’chil Bildagoteel. Through my work, I intend to draw attention to the monumental injustices that continue to be inflicted on indigenous people in the United States, and encourage increased respect on the part of the scientific community for indigenous beliefs and knowledge systems.

I. Methodologies

I first became involved in the fight for Chi'chil Bildagoteel in March 2015, when I visited for the first time over spring break. Since then, I have become a part of Apache Stronghold, the main organization spearheading the land defense effort, and have spent the past few years visiting San Carlos over block breaks and spending significant portions of the summer on the reservation. This thesis is a combination of personal observation and interaction, interviews, and literature review.

Language preservation and cultural preservation are inextricably intertwined. When it comes to placenames, language is even more vital. In this paper, I will be using

Apache placenames in favor of their English counterparts wherever possible. As David Samuels states in his study of Western Apache placenames on the San Carlos Reservation, “knowing and using these older Apache placenames creates historical knowledge and depth, as well as political knowledge and power for their users. The power to name and rename the landscape has widespread social and political consequences” (Samuels 2001). Such placenames serve as “seemingly quintessential symbols of cultural identity, meeting places of space and time that link language, history, and narrative traditions into richly layered chronotopic poignancy” (Samuels 2001). Using Apache placenames in place of English is a form of reclamation that serves to fight the dominant narrative imposed on the indigenous people of this country. Vernalda Grant, Tribal Historic Preservation Officer, expounded on the importance that these placenames hold for Apache people, saying:

Using Apache names for these places, for placenames, just reinforces that...we were there and we're still there, because they're places that play key roles in our origin stories, in our prayers, in the songs that we sing, they're like psalms of the Bible, so those psalms, those songs, name these mountains and these spring areas, so it all makes it connected, so if you do like an ethnographic report it's all there, and it's all mapped, and when it's written in Apache, it really enriches what the environment is, and how full of life and colorful, how rich that place is, or, you know, if it's a territory or an area that's really left alone and unexplored, it'll remain somewhat the same, but if it was an area like mine, it's a valley of willows, you don't see that valley of willows no more, you see golf courses. So in one way, it tells you that if you name that place outside of Payson my clan name, it'll tell you that's what it once was, what it once used to be."²

Placenames are not only a way to reconnect the land with Apache heritage and culture, but also tell the story of the landscape and how it used to be. In this way, the placenames also create an environmental history of the land, allowing comparisons between how it

² Interview, November 2016

used to be and how it is now, making the placenames both a valuable cultural and environmental tool.

The Apache word for themselves is “Ndeh³”, meaning “The People”. However, the term “Apache”, which originally came from a nearby tribe’s word for “the enemy” has been reclaimed and is more frequently used amongst the Apache people on a day to day basis, hence my usage of it in this paper (Jacoby 2008).

In her book “Indigenous Leadership in Higher Education”, Dr. Robin Minthorn discusses the fundamental strangeness of italicizing indigenous languages in English writing. Italicizing words in a different language usually demarcates the language as foreign, when, in actuality, it is English that is the foreign language on this continent (Minthorn and Chávez 2014). Accordingly, I will not be italicizing Apache words and placenames, in hopes of normalizing the use of an indigenous language in an academic setting.

The interactions between the San Carlos Apache and state and federal agencies in the fight for Chi’chil Bildagoteel reek of settler colonialism. Settler colonialism “describes a historically created system of power that aims to expropriate Indigenous territories and eliminate modes of production in order to replace Indigenous peoples with settlers who are discursively constituted as superior” (Saranillio 2015). In this case, settler colonialism is perpetrated through a land exchange, a “non-sale real estate transaction in which a nonfederal party exchanges private land for federal land” (Parker 2014). In principle, land exchanges are a good way to combat fragmentation and protect land with conservation

³ Alternate spellings include Nde, Ndee, and Nnee.

value. However, conflicts arise when it comes to deciding what land is worthy of protection and what land can be sacrificed. In this case, the land exchange is an example of the ways in which “Our environmental law has been colonized by a perverse system of values which is antithetical to achieving environmental justice for American Indian peoples...[it] fails to recognize or acknowledge that protecting environmental values is anterior to, and a prerequisite for, protecting all our other core human rights” (Williams 1994).

Although the concept of conservation has positive connotations, “The history of conservation clearly reflects elements of coercive statecraft” (Robbins 2012). Conservation can be used as a means to control people. Here, it is an example of the continued physical and cultural genocide wreaked on indigenous people for over 500 years. Chi’chil Bildagoteel and the importance it holds for the Apache people has been deemed less important than the potential it holds as a site of copper extraction. Viewed through the lens of settler colonialism, which “destroys to replace,” indigenous ways of using the land will be replaced with the environmental degradation inherent to capitalist modes of production (Wolfe 2006; Robbins 2012).

When discussing indigenous issues in a Westernized academic framework, it is important to keep in mind the power dynamics that have historically caused traditional ecological and cultural knowledge to be viewed as less legitimate and less capable of standing up to scientific scrutiny. In her book “Decolonizing Methodologies: Research and Indigenous People”, Linda Tuhiwai Smith states that “Western knowledge and science are ‘beneficiaries’ of the colonization of indigenous peoples” and that “Indigenous ways of knowing were excluded and marginalized” (Smith 2006). In other

words, colonizers appropriated indigenous knowledge, found ways to legitimize it through their own institutions, claimed it as their own, and promptly labeled the very people they had learned from as barbaric, uncivilized, and subhuman (Smith 2006).

Although political ecology can provide useful lenses through which to view indigenous issues, it is vital to be aware of the colonized foundations of the field.

Defining Sacredness

The notion of defining sacredness is inherently contradictory, because what is considered sacred varies widely depending on who is being consulted. Tribes are frequently caught between federal, state, tribal, and individual definitions of sacredness, especially because reservations themselves are technically located on federal land.

Federal Definition

Nationally, sacred sites were defined by President Bill Clinton in Executive Order No. 13007 as “any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or an Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial usage by, an Indian religion” (E.O. No. 13007 1996). However, this definition has several problematic elements. One such issue comes with determining who can speak on behalf of an Indian tribe, or who constitutes an “appropriately authoritative representative of an Indian religion.” As with any faith, indigenous religious beliefs and practices can vary from person to person. Although there may be specific religious leaders, trying to select one or even a few representatives to set the federal standards for an entire faith risks delegitimizing other practitioners.

The second problem with this designation is that federal and state authorities frequently fail to adhere to traditional systems of choosing leadership when selecting such representatives. Instead of listening to elder councils or medicine men, they rely on tribal governmental officials to speak on behalf of the tribe as a whole. While elected officials constitute an important part of any legislative process, they are often part of governments that have been reorganized according to a Western format, and may therefore not be the best advocates for traditional matters. Additionally, corruption in tribal governments is a major issue, and it is vital to remember that the opinion of the tribal government may not represent that of the people themselves.

A third issue with the federal definition for sacred sites is its declaration that a sacred site must be a “specific, discrete, narrowly delineated location” to fall under the protection of E.O. 13007. This provision gives credence to the notion that simply moving a potentially destructive project a short ways away from a sacred site is a sufficient solution. However, “for Native American spiritual sites where the surrounding landscape may contribute substantially to the sacred qualities of the site, project relocation in proximity to the site may not be a viable solution” (Trope 1995). A sacred site may have elements less tangible than a shrine or a particular land formation that are more difficult to delineate within an enforceable boundary, a problem that stems at least in part from differing notions of property and land connectivity between Western and indigenous thought systems. Due to a more holistic conception of religion, “If Jews and Christians see the action of a deity at sacred places in the Holy Land and in churches and synagogues, traditional Indian people experience spiritual activity as the whole of creation becomes active participants in ceremonial life” (Deloria 1973). Factors like

water and air pollution, tourist traffic, and nearby construction projects can all interfere with the use of a sacred site. For example, a mining project will almost certainly affect the water quality in a surrounding area. Even if the mine is moved off of the sacred site itself, pollutants may still be carried over via water or air.

Tribal Definition

In his book “God is Red”, Vine Deloria Jr., a prominent Yankton/Standing Rock Sioux author, historian, and activist, delves into the various definitions of sacred sites for Native peoples. In his words, “The first and most familiar kind of sacred lands are places to which we attribute sanctity because the location is a site where, within our own history, something of great importance has taken place. Unfortunately, many of these places are related to instances of human violence.” Sites that fall under this category of sacredness include Sand Creek and Wounded Knee, places that have seen monstrous atrocities committed against Native peoples. It also includes Da'Wus'Teel, or Apache Leap, a cliff from which around 80 Apache leapt to their deaths to avoid capture by the U.S. Cavalry. Da'Wus'Teel is adjacent to Chi'chil Bildagoteel and would also be impacted by the mine.

The second category of sacred sites encompasses those where “the sacred or higher powers have appeared in the lives of human beings. Indians would say something holy has appeared in an otherwise secular situation...the sacred has become a part of our experience” (Deloria 1973). Instead of being made sacred because of the actions humans have taken there, these places are where spiritual entities touch the lives of humans. Such sites include places where tribes were told to settle by sacred beings, or where they formed relationships with nonhuman members of creation, including animals and plants.

Deloria goes on to say that the "third kind of sacred lands are places of overwhelming holiness where the Higher Powers, on their own initiative, have revealed Themselves to human beings...places of unquestionable, inherent sacredness on this earth, sites that are holy in and of themselves...there will always be a few sites at which the highest spirits dwell" (Deloria 1973). These places are holy not because of their relationship to or with mankind, but because of their connection with that which is most sacred. Sometimes they are demarcated by notable natural features, like Bear Butte or Dził Nchaa Si'an. Most of the time, they are more subtle and known only to the people that hold them sacred.

Finally, Deloria's fourth category of sacred lands allows indigenous religions to be current, living ideologies. He says that because "there are higher spiritual powers who can communicate with people, there has to be a fourth category of sacred lands. People must always be ready to experience new revelations at new locations." Refusing to account for this fourth category of sacred lands requires religions to be static and risks rendering them obsolete relics of a bygone past. "Unfortunately, some federal courts irrationally and arbitrarily circumscribe this universal aspect of religion by insisting that traditional religious practitioners restrict their identification of sacred locations to places that were historically visited by Indians, implying that at least for the federal courts, God is dead." (Deloria 1973). Therefore, when dealing with issues around sacred land, it is important that federal and state powers take into account that part of having freedom of religion, as guaranteed by the First Amendment, is allowing religions and religious practices to evolve, just as Christianity is allowed to do with the canonization of new saints and the issuance of new religious edicts from the Pope.

Federal Regulations Affecting Sacred Sites

A pantheon of federal regulations affects the governance of Native American sacred sites. One of the most influential is Section 106 of the National Historic Preservation Act of 1966, which requires federal agencies to account for the impacts federal projects may have on historic properties. Additionally, Section 101(d)(6)(A) of the NHPA states that properties of traditional religious and cultural significance to an Indian tribe or a Native Hawaiian organization may be eligible for the National Register of Historic Places (NHPA 1966).

Another regulation that can be used by tribes to try to protect sacred sites is the Native American Graves Protection and Repatriation Act, or NAGPRA. One of the main purposes of the law, which was enacted on November 16th, 1990, is to provide greater protection for Native American burial sites, as well as cultural artifacts and human remains. NAGPRA requires that tribes be consulted when archaeological excavations encounter or expect to encounter cultural items or remains on federal or tribal lands (NPS 2016). In the otherwise unfavorable 9th Circuit Court case *Bonnichsen v. U.S.* (2004), the court decided that Congress's intent in passing NAGPRA was to both respect the burial traditions of living Native Americans and to protect the dignity of the human body after death. NAGPRA applies to federal land and to land that the federal government has transferred to state ownership. However, it does not apply to private lands, so by transferring USFS land to private ownership on the part of Resolution Copper, Congress has allowed RCM to circumvent the protections that NAGPRA was designed to provide.

In the United States, Rio Tinto benefits from provisions of the 1872 Mining Law, which was originally passed to help mining corporations circumvent state laws and secure title to mining claims on federal land. The law states that “all valuable mineral deposits in lands belonging to the United States...shall be free and open to exploration, and purchase, and the lands in which they are found to occupation and purchase” (Mayer 1986). The provision “valuable” is determined by two tests: the “prudent man” rule and the marketability rule. The “prudent man” rule states that a claim is valuable if “a reasonably prudent person would expend additional money working the claim”, while the marketability rule defines a valuable claim as one where the minerals can be marketed at a profit (Mayer 1986). As these provisions make clear, the law solely views public lands through a nature-as-commodity lens, which is inherently contradictory to indigenous ways of viewing the world. Despite its age, the 1872 Mining Law is still the main piece of legislation that governs mining on public lands, frequently to the detriment of tribal and environmental interests alike. However, the 1872 Mining Law does not completely eliminate the U.S. Forest Service's authority to limit methods of mining, as the 2012 9th Circuit Court Case *Karuk Tribe of California v. U.S. Forest Service* found that while miners may have a statutory right to mine on Forest Service lands, the federal government "retains substantial regulatory power" over said mining activities.

II. San Carlos: Past and Present

The San Carlos Apache Reservation is located in southeastern Arizona and spans some 1,800,000 acres across Gila, Graham, and Pinal Counties, making it the largest of the Apache reservations. Its diverse landscape includes desert, alpine meadows, and ponderosa pine forests and ranges from 2,000-6,000ft in elevation (AREcon 2016).

The San Carlos Apache Tribe stems from several different bands of Western Apache that were forced onto the same reservation in 1872. Despite having considered themselves separate sovereign entities, some members of the different bands have, over several generations, been able to form some sense of unified tribal identity. However, “the San Carlos Apache Community remains a reservation of many Apache communities, and depending upon where an individual Apache lives and what family he or she belongs to, an individual’s views on tribal politics, where sovereignty resides in the tribe, and who is responsible for protecting the religious traditions of the tribe will differ dramatically” (Williams 1994). These divisions become especially clear when it comes to protecting sacred sites.

Precolonization

Prior to European invasion, ancestral Apache territory included parts of Arizona, New Mexico, western Texas, and northern Mexico (Opler 1941). The Apache were divided into a variety of territorial bands, organized as a collection of family groups within a territory. Many of the bands were culturally distinct and spoke their own related dialects from the Athabaskan language family, although intermarriage and cultural exchanges were common. The Western Apache were organized into around sixty clans, with matrilineal membership (Jacoby 2008). Unlike the nearby Navajo, agriculture was not widely practiced, with the nomadic bands instead relying on hunting, gathering, and raiding for food. The Apache were known for their fighting abilities, and were regarded with fear both by European soldiers and by the United States military. Even today, the fact that the Apaches were one of the last nations to surrender to the United States continues to be a source of pride (Samuels 2001).

Reservation Establishment

The White Mountain Indian Reservation was established by executive order of Ulysses S. Grant on November 9th, 1871. Under the concentration policies of the United States, thirteen separate Apache bands were forced onto the reservation, including the Chiricahua, Tonto, Mimbrenos, and Aravaipa (AREcon 2016). The fact that these bands had always considered themselves to be separate from one another led to violence and infighting when so many autonomous people were removed to the same territory. Later, in 1897, Congress split the reservation in two, with the Salt River acting as the dividing line between the Fort Apache Indian Reservation to the north and the San Carlos Indian Reservation to the south (Welch et al. 2009).

The reservation was reduced on five separate occasions by the United States government to make way for mining interests in the area. Meanwhile, “miners prospecting for silver around the present city of Globe, to the west of San Carlos, paid no heed to the reservation line. When it was drawn behind them, they simply squatted on the land until their petition to have it removed from the reservation was granted in 1876” (Samuels 2001). Furthermore, “the Bureau of Indian Affairs leased reservation lands to nontribal members to such an extent that by 1921 three-quarters of the grazing land within the reservation was leased to non-Indian ranchers” (Samuels 2001). Currently, the reservation is half of its original size. The forcible theft of land has had a marked impact on the psyche of the Apache people, with one elder describing the loss as “an unanesthetized amputation” (Welch and Riley 2001).

Present Day

A 2014 census put the population of San Carlos at 10,419 individuals divided between 2,988 households. The population shows a heavy demographic skew towards the younger generations, with the median age being 26. Despite a cultural emphasis on cattle ranching, the highest source of employment for the tribe remains the public sector, including education, health care, and government/public administration (AREcon 2016). Another primary source of income and employment is recreation, both in the form of outdoor activities and through the Apache Gold Casino.

Comparisons between the reservation and surrounding towns show a dramatic difference in living conditions, with the median household income of \$27,800 approximately half that of nearby towns and with unemployment and poverty rates 2-3 times higher. These concerning population trends are a “direct consequence of the federal effort to eliminate Ndee identity by severing ties between the people and their ancient heritage” (Welch and Riley 2001). The struggles on San Carlos are a living example of the cost that land dislocation can have for indigenous peoples and cultures.

However, Apache culture continues to be preserved and promoted through a variety of methods. Traditional arts like basket-weaving and beading are still practiced, and the San Carlos Apache Cultural Center helps to showcase works of art and disseminate information to both tribal members and visitors. The San Carlos Apache tribe opened its Language Preservation Program in 2011 in an effort to encourage the use of Western Apache amongst tribal members, around 20% of whom still speak the language fluently. Program director Beatrice Harney Lee stated that “The re-education of the

Apache language is an integral part of knowing who we are – it is our identity...it defines a culture through the people who speak it and what it allows the speakers to say” (Rambler 2011).

The battle to protect core elements of the tribe’s culture extends to fights over sacred sites. In addition to the battle for Chi’chil Bildagoteel, the Apache have been fighting for over twenty years to protect Dził Nchaa Si’an⁴, or Mount Graham, home to the Apache gaan⁵. Several institutions, including the University of Arizona and the Vatican, have sought to build telescopes on the mountain, which has “provided the Western Apache with resources to maintain life, spiritual power for healing, and even moral guidance” (Welch 1997). Although two have been built, several more have been prevented, and in July 2015, the US Forest Service returned around 15 acres on the mountain to the tribe for personal use. Grassroots organizations like Apache Stronghold help fuel community efforts to protect these lands and in doing so, maintain Apache culture into present day.

Sunrise Dance

The Sunrise Dance, or Na’ii’es, is one of the most centrally important Apache ceremonies, and marks an Apache girl’s transition to womanhood. Preparations begin following a girl’s first menstrual cycle. The dance itself is a community event that takes place over four days and evokes White Painted Woman, a central figure in Apache stories who established the puberty rites to pass the traits of womanhood from one generation to the next throughout time immemorial. During these four days, the Sunrise Girl dances with

⁴ “Big seated mountain”.

⁵ Mountain spirits. Some concepts should not be spoken about in an academic setting, and so I will be writing as little as possible about them in this paper.

the Crown Dancers, representing the gaan people. Sunrise dances take place at both Chi'chil Bildagoteel and Dził Nchaa Si'an, tying the next generation of young Apache women to these sacred places and reinforcing both their commitment to the land and the vital importance of said sacred sites to Apache life and culture.

Traditionalism vs. Lutheranism

There are currently two main faith bases on the San Carlos Apache Reservation: the Lutheran Church and the Apache traditionalists. During the late 19th and early 20th centuries, Lutheran missionaries converted many reservation families from traditional beliefs to Christianity, going so far as to translate the Bible into Apache. As a result, “those Apache had subsequently forgotten or abandoned the Apache religious traditions. Such ‘Lutheranized’ Apaches would not have known that Mount Graham was sacred to some of the Apaches in a particular region of the reservation where traditional Apache beliefs had been maintained through oral tradition and stories” (Williams 1994).

In many ways, the Lutheran Church on San Carlos still actively attempts to stamp out traditionalist practices. People who attempt to balance between the two worlds, attending church while also participating in ceremonies like the Sunrise Dances, are often forced to choose. Vernalda Grant, Tribal Historic Preservation Officer, related her story of how the Lutheran Church attempted to make her repent before the congregation after her own Sunrise Dance:

“For me, when I came back, I went to church after my Sunrise Dance, and the pastor came to the window of my grandma’s truck... and he said, I was told that your family, that you had a Sunrise Dance, and I said yeah. And he’s all, you need to come back, you’re not welcome to the church until you repent in front of the whole congregation, and I’m like, do you know that more than half of your church

was at my camp?.. I said just to let you know, you should be happy that now I understand what you mean by ‘the power of the Holy Spirit is moving’, because I was extremely moved, and I believe in this great being that created all of us and I’ve got responsibilities, I’ve got to be strong, I’ve got to have great strong prayer, you know, I’ve got to live, make sure that I’m strong for my people, and for God, and you should be proud of that, and he wasn’t. So we never went back.”⁶

Because of the inherent connection between land and religion, by teaching that traditional ceremonies and practices are sinful, the Lutheran Church exacerbates the disconnect between some Apache and their ancestral land. Tribal members that ascribe to the Lutheran faith may have indeed been raised to believe that sacred sites, particularly those used for traditional ceremonies like the Sunrise Dance, are not sacred. Corporations like Resolution Copper and the University of Arizona exploit these religious divisions by getting Lutheran tribal members to testify that sites like Chi’chil Bildagoteel and Dził Nchaa Si’an are not and never have, in fact, been considered sacred.

III. The Beginning: Dził Nchaa Si’an

The battle for Dził Nchaa Si’an both precedes and is inextricably intertwined with that for Chi’chil Bildagoteel. Dził Nchaa Si’an, known to most as Mount Graham, is a part of the Pinaleno range located in Coronado National Forest, which is reported to be the only mountain range to contain five of the seven major North American ecosystems within its boundaries (Welch 1997, Williams 1994). Like Chi’chil Bildagoteel, it has unique ecological significance as a sky island habitat surrounded by desert. Rising more than a mile above the surrounding desert, Dził Nchaa Si’an’s biologic isolation allows it to serve as a “refuge for relic populations of plants and animals with adaptive strategies rooted in Pleistocene environmental conditions,” including the oldest stands of conifers in the

⁶ Interview, November 2016

Southwest (Welch et al. 2009). Its five different major biotic zones provide habitat for approximately 30 “rare, threatened, endangered, and unique distributions of plants and animals,” including the only remaining habitat for the endangered Mount Graham red squirrel and for 18 other species and subspecies of endemic plants and animals (Warshall 1996, Williams 1994). Other threatened species that make their home on the mountain include the Mexican spotted owl and goshawk (Williams 1994).

However, Dził Nchaa Si’an has also “been a locus of conflict through increasingly intrusive iterations of conquest pursued by Spanish, Mexican, and American forays since the 1700s” (Welch et al. 2009). As with Chi’chil Bildagoteel, the mountain was part of the combined White Mountain Apache and San Carlos Apache reservations’ territory, but it too was taken and returned to the public domain within a year (Helfrich 2005).

“In the cultural symbology of colonialism, there comes that pivotal moment when the colonizer affirms the triumph over the colonized by an unspeakable act of religious defilement...So too, with the Mount Graham controversy” states Robert A. Williams Jr., former Director of the Office of Indian Programs at the University of Arizona (Williams 1994). In the early 1980s, the University of Arizona and allied institutions selected the mountain as a site on which to build telescopes. They were backed by the Vatican, who saw the desecration of the mountain as an opportunity to strike at the heart of what they viewed as heathen practices. Historian Joel Helfrich states that “These alliances illustrate a misplaced dichotomization of the fight over the mountain as once of ‘science’ versus ‘religion’. In fact, the environmentalists who rely on scientific methods are allied with the Apaches, while the Vatican is allied with the astronomers” (Helfrich 2010).

An attack on the spiritual practices of the Apache was also an assault on the environmental worth of Dził Nchaa Si'an. In Apache religious practices, "You protect what a modern environmentalist might call the biodiversity of the mountain because it is that biodiversity which physically sustains you and the members of your tribe. It is a source of food and other forms of sustaining nourishment. It provides herbs and healing medicines. The Gaan story teaches that not only does Mt. Graham sustain you physically, but socially as well, because the sacred story of the Gaans connects the tribal community around a set of cohesive values which define tribal social life" (Williams 1994).

Dził Nchaa Si'an has, in the words of Wendsler Nosie Sr., former tribal chairman, councilman, and leader in the fight for sacred sites, "been a Holy Mountain since the beginning of creation. This has been passed orally through our ancestors. It was taught to us that it was given to the world. Our culture, our language, our religion is being threatened. All of this is our identity. Our identity is the land and where God has placed us in this part of the world. We cannot let it end" (Williams 1994). It is so closely tied to a sense of being Apache that even discussing allowing telescopes to be built is painful, as Vernalda Grant explained to the U.S. Forest Service, saying "You or your family may incur consequences from doing harm to the Mountain...Asking the San Carlos Apache Tribe to participate in mitigating and/or deciding upon the current and future projects on Dził Nchaa Si'an is like asking us to participate in destroying and/or desecrating a holy place" (Williams 1994).

Dził Nchaa Si'an is a defining landmark in the Apache lifeway, which has

"these chains of mountains that form the border to our traditional cultural territories and the cultural landscapes that lie within the border of these mountains... these

mountains have living beings that live in it, spiritual beings that are alive...they're not dead, they're living, breathing elements which is like, really sacred and holy medicine plants or sacred and holy things that we drink, teas, from these plants, or items that we use to pray with...in these mountains that form the border in our landscape, in our territory, they help us to live life to the best of our abilities, they give us all that we need to survive.”⁷

Although three telescopes have been built on Dził Nchaa Si'an, efforts to protect it remain ongoing, and its importance to the Apache people is undiminished. Each year, runners hold a prayer run from the San Carlos Reservation to the mountain. Furthermore, in July 2015, the U.S. Forest Service returned 15 acres of land to the tribe for year-round usage, a historic move that marked a small step forward in respecting tribal rights to their homelands.

IV. The Fight for Chi'chil Bildagoteel

Chi'chil Bildagoteel is located in the Tonto National Forest in Arizona, about 45 minutes from the reservation line and approximately four miles east of Superior, a small mining town. Although it used to be part of the San Carlos Apache reservation, the land was taken during the five reductions of the tribal land base. However, as part of the ancestral Apache territory, it continues to have “significant religious, cultural, historical, and archeological value to the San Carlos Apache Tribe and other tribes in the region”, including sacred burial, ceremonial, and medicinal sites (Dept. of the Interior 2014). Furthermore, as one of the only sites of year-round standing groundwater in the surrounding Sonoran Desert ecosystem, Chi'chil Bildagoteel is of significant ecological importance, serving as a haven for a diverse array of species that includes the endangered

⁷ Vernalda Grant, interview, November 2016.

Sonoran ocelot, coatimundis, and a variety of migratory birds. It also happens to be situated above one of the largest copper deposits in the United States.

Background

Towards the end of the 113th session of Congress, H.R 3979, also known as the National Defense Authorization Act, came up for discussion. The bill, which set the nation's defense policy, was a must-pass item before the session could close. On page 1,103 of the approximately 1,700 page bill, Arizona state representatives, including Representative Paul Gosar, Senator Jeff Flake, and Senator John McCain, had included a last-minute provision exchanging over 2,400 acres of federal land, including Chi'chil Bildagoteel, for around 5,300 acres of private land owned by Resolution Copper Mining (RCM), a subsidiary of foreign mining company Rio Tinto⁸. The rider was revealed only minutes before midnight, in a manner that a New York Times op-ed referred to as "sneakily anti-democratic even by congressional standards" (Millet 2015). Known as the Southeast Arizona Land Exchange and Conservation Act, the rider had already been pulled from floor consideration in the House of Representatives twice in the 113th Congress alone (Rambler 2017). RCM had pushed to gain access since 2005, lobbying for legislation over a dozen times in the following decade (Fang 2015). Each time, the proposal met with failure, but by being tacked onto the NDAA bill and then sent to the Senate in a format that didn't allow for amending, the land exchange rider passed Congress on December 12th and was signed into law by President Barack Obama on December 19th, 2014.

⁸ Fellow foreign mining conglomerate BHP-Billiton serves as a minority owner in the project.

Tonto National Forest, including Chi'chil Bildagoteel and the surrounding land, was protected from mining by special order of President Eisenhower in 1955, and again in 1971 by President Nixon, on account of its cultural and environmental value (Fang 2015). However, in 1995, exploratory drilling by the Magma Copper Company located a body of porphyry copper about a mile below the surface. It's believed to be the largest copper deposit in North America and one of the largest in the world (Stern 2015). Furthermore, with most copper deposits, the typical proportion of pure metal in the ore is 0.6% (Houlton 1994). However, the proportion of copper in the total ore body is between 1%-3% (Fiscor 2014). The ore body lies within the layer of older bedrock 4,000-7,000 feet below the earth's surface (Montiel et al 2016).

The General Plan of Operations for the mine lays out plans for the mine site at Chi'chil Bildagoteel (East Plant Site), a processing facility (West Plant Site), a tailings dump site, railroad/utility/pipeline corridors, loading and filter plants sites, unidentified final smelting sites, and associated travel routes (RCM 2016). The lands that RCM exchanged for Chi'chil Bildagoteel are not only spiritually insufficient, but are also environmentally poor substitutes. They lack the valuable riparian habitat that would be destroyed by the mine and instead include lands that have been overgrazed, recently burned, and/or dewatered (Montiel et al 2016).

In January 2016 Resolution Copper submitted their ESA for hydrologic and geotechnical data gathering activities, despite already having drilled several exploratory mine shafts to depths of 7,000ft, an action that has dewatered several regional springs and, thanks to the heated water pumped back to the surface, contributed to algal blooms in the remaining surface water. RCM states that it will use a method known as block cave

mining to access the copper, a highly destructive and water intensive technique that involves digging underneath the ore and causing the earth to collapse under its own weight, creating a subsidence zone directly above and in the vicinity of the mine (Vyazmensky et al 2008). Such a practice is projected to leave an enormous crater 2 miles wide and over 1,000 feet deep, generating up to a cubic mile of waste in the process. Currently, RCM plans to dump this waste on nearby Forest Service land (Fang 2015).

The company itself has faced its fair share of environmental and social controversy. Dubbed a “poster child for corporate malfeasance,” Rio Tinto, the parent company for RCM, also embodies many of the problems of the copper mining industry as a whole, “operating in areas without social legitimacy, causing major devastation, and then leaving when an area has been exhausted of all economically valuable resources” (Jenkins 2004). Their most notorious involvement in a human rights violation took place in Andalusia, Spain, in 1888. Local farmers, peasants, and miners were demonstrating against wage inequalities and sulfur dioxide pollution from the nearby mine when the Army, called by the mining corporation, began firing into the crowd, killing between 100 and 200 people in all (Martinez-Alier 2001).

Environmental Repercussions

Copper mines are known for their "multielemental contamination of the environment," producing a host of environmental issues that include air and water pollution (Dudka and Adriano 1997). Potential externalities arising from the proposed mine include the pollution of groundwater, the destabilization of nearby geologic

formations, such as the cliffs overhanging the town of Superior that would be at the outskirts of the proposed mine, and the health risks created by hazardous tailings, which are already exemplified by the increased cancer rates within the Copper Triangle (Bridge 2004). Although the company is technically required to conduct an Environmental Impact Assessment under the National Environmental Policy Act (NEPA), under the terms of the NDAA rider, they are guaranteed the land regardless of the outcome. Furthermore, once the land falls under private ownership, NEPA will no longer apply, significantly limiting the measures that can be taken to mitigate environmental damage (Fang 2015).

Water

One area in which the proposed mine poses a significant threat is water quality. Copper mines are known for leaching heavy metal, including cadmium, lead, and mercury, into nearby waterways. Pollution from the mine could potentially leak into area aquifers, as well as the bodies that make up the Gila River Basin watershed. According to a 1994 survey conducted by US Fish and Wildlife Services, the rivers in the area already have levels of heavy metals like cadmium, lead, and mercury that are slightly above accepted Domestic Water Source standards (DWS). Other local copper mines have already created concerns about the possibility of exposed copper settling into sediments farther downstream.

Water contamination remains an issue long after copper mines have shut down. This past November, many migrating snow geese died from exposure to contaminated water after landing in the Berkeley Pit, a former open pit copper mine in Butte, Montana, that operated from 1955-1982 (Guarino 2016). After the mine closed, it filled with water

up to 900 feet deep in some places, and was designated as a federal Superfund site (NASA 2008). The water contains toxic amounts of heavy metals, including arsenic, cadmium, copper, zinc, and iron. Thousands of geese were killed as a result (Guarino 2016).

The mine would pose a threat not just to the water quality, but also to the availability of both surface and groundwater. Resolution Copper estimates that operating the mine would require approximately 20,000 acre-feet of water per year. They plan to use water from the Central Arizona Project⁹ allocations for municipal and industrial projects, which amounts to 620,678 AF/year (RCM 2016). However, if water becomes unavailable at any point during the lifetime of the mine, they will have to either increase groundwater pumping, or find a way to access CAP water that has previously been allocated for other uses (Montiel et al 2016). Due to frequent drought conditions over the last decade and water shortages from the Colorado River, it is quite feasible that Resolution Copper would not be able to receive as much water from CAP allocations as they claim they would.

Meanwhile, calculations conducted by the authors of "Scoping Comments for the Resolution Copper Mine DEIS" place water usage estimates at around 786,626 acre-feet over the estimated 45-year life span of the mine. At least 759,995 acre-feet would have to come from either CAP allocations or pumped groundwater, enough water to service one million households in Phoenix for at least three years (Montiel et al 2016). RCM's own

⁹ The Central Arizona Project is a 336 mile long canal that begins in Colorado and carries water through Phoenix and down south to Tucson.

estimates show that at least 733,364 acre-feet of water will be lost over the projected 45-year lifespan of the mine, largely due to evaporation (RCM 2016).

There are three groundwater zones: deep bedrock, Apache Leap tuff, and the alluvial aquifers. Studies indicate that the layer of Apache Leap Tuff will be at least partially dewatered, and that nearby springs and their associated riparian habitat may dry up, perhaps permanently (Montiel et al 2016). In particular, the Apache Leap Tuff, which covers 90% of the area taken by RCM, is highly fractured, creating the potential for significant fracture flow through unsaturated zones (RCM 2016). The shallow aquifer is located within the layer of Apache Leap Tuff, while the deep bedrock outcrops west of the mine, indicates that it is the recharge zone for the deep bedrock groundwater, which has important spiritual significance on its own.

Already, the amount of groundwater pumping required to drill shafts has dewatered springs in the surrounding area, springs that are vital for local ecology and Apache ceremonies alike. The main drainage feature in the area is Queen Creek, which flows east to west, as well as Gaan Canyon, which is immediately adjacent and flows north to south. Both are also at risk of being dewatered, and Queen Creek is already being dewatered by RCM Shafts #9 and #10. More than twenty springs have been recorded within a five mile radius of Chi'chil Bildagoteel. These springs, which have been described as "keystone features of the landscape" are both environmentally and spiritually vital (Montiel et al 2016). They not only provide life-sustaining water, but are also used in ceremonies like the Na'ii'es. However, surface cracking following the subsidence associated with block cave mining could lead to changes in the waterway patterns, drying up the wetlands and springs (Montiel et al 2016).

Because groundwater is being pumped out of deep aquifers more quickly than they can refill, water from the shallow aquifers that support groundwater flow is instead being pulled into the deep bedrock, lowering the water table and creating drawdown cones that can extend miles beyond the immediate area and affecting groundwater in adjacent watersheds. The existing Shaft #9 has been dewatering the region since 2009, lowering the water table to more than 3000bgs. The projected drawdown from the completed mine could be as much as 7000ft below ground level, since that is the depths from which water is being pulled (Montiel et al 2016). Furthermore, the drawdown could continue even after the mine closes, since the aquifer recharge rate would be extremely slow. This drawdown could potentially impact municipal water supplies in residential areas such as Queen Creek and Superior. According to the RCM General Plan of Operations, the underground mine workings and deep pits created by the subsidence will take “hundreds to thousands of years to re-saturate”, during which time water from nearby aquifers will continue to be pulled into the mine, while the deep pit lakes created by the subsidence from mine will continue to dewater the aquifers as water migrates into the pit and evaporates (Montiel et al 2016).

The project also has a substantial risk of acid mine drainage. Most of the rock extracted during the mining process is expected to generate acid and increase metal loading in local water supplies (Cvitkovic 2016). The subsidence crater left by the mine would capture and divert rainwater away from the natural surface flows that it would usually follow, pulling into the lower parts of the crater, where it could potentially mix with acid generating rock and risk polluting municipal water supplies (Montiel et al 2016).

Air Quality

Both the mine itself and the waste it would create would pose a threat to air quality, not just within the vicinity of the mine but also in nearby residential areas like Globe and Superior, to where prevailing winds could carry pollutants and particulate matter. The mining process itself may produce particulate matter and sulfur oxides, while copper smelters can emit toxic substances such as arsenic, cadmium, and mercury (Montiel et al 2016). Copper smelting is also one of the major manmade sources of sulfur oxides (Dudka and Adriano 1997). The miles of dirt roads, the tailings and waste rock piles, and the de-vegetation associated with subsidence and mining activity will increase the amount of dust in the area, dust that could potentially contain toxic material.

Additionally, tests have shown that there is a high silica content, between 20%-50%, in the rocks (Montiel et al 2016). Dust from these rocks could pose a health hazard to workers. If RCM sticks to its promise to employ tribal members and other inhabitants of towns such as Globe and Superior, the silica content would pose yet another threat to members of the community. Finally, vehicle emissions from the many trucks that will be required to transport the mined material could also negatively impact air quality.

Climate Change

Indigenous people are already disproportionately impacted by climate change, both because of the environmental racism that often leads minorities to end up with more of the burden of environmental hazards, and because traditional lifeways are so inherently connected to the landscape (Tsosie 2007). At every step of the process, mining contributes substantial amounts of greenhouse gases to the atmosphere. The proposed

Resolution Copper mine would almost certainly contribute to climate change through its emissions. For example, Resolution Copper estimates that its mine would produce a peak of three million tons of concentrate per year (RCM 2016). Although the company does not include any estimates of its operations' carbon output, enormous amounts of electrical energy would be required to lift, transport, and process said concentrate, producing tens of thousands of metric tons of carbon dioxide as a consequence.

The main source of electricity for the mine would come through a grid intertie to the Salt River Project,¹⁰ which is 85% powered by coal and natural gas (Montiel et al 2016). This energy production would, in turn, have environmental and spiritual consequences for other reservations, since much of the coal being burned to produce electricity is mined on the nearby Navajo Nation (SRP 2017). Additionally, both the trucks and excavators used during mining itself rely on diesel fuel, contributing even more emissions during the transporting process. When it comes to processing the ore, smelting utilizes heat and a chemical reducing agent, frequently a source of carbon such as coke, to reduce the ore (Montiel et al 2016).

Mining Waste

Mines create a substantial amount of waste, because a large volume of material must be mined in order to access a relatively small fraction of ore. In mining, "the materials handled consist largely of waste or unusable materials, [which] distinguishes mining industries from many other process industries" (Dudka and Adriano 1997). This fact alone makes mining antithetical to most indigenous belief systems, which tend to try to

¹⁰ A public utilities cooperative in Arizona.

make use of whatever possible while wasting little in the process. Copper mining in particular creates enormous amounts of waste material and tailings, generating over half of all mine waste and tailings produced in the metal mining industry as a whole (Dudka and Adriano 1997). In the copper mining industry as a whole, the ratio of material handled to the units of marketable metal is 420:1 (Houlton 1994). Furthermore, the RCM mine will be a surface mine. In surface mines, the amount of waste produced ranges from two to ten times the total volume of the crude ore (Houlton 1994).

There are four types of large-volume waste produced from such mining operations: mine waste, which includes overburden and barren rocks, tailings, dump heap leach, and mine water (Salomons and Forstner 1985). Tailings are produced from ore beneficiation, the technical term for when crushed ores are concentrated to release ore particles from less valuable rock (Kesler 1994). Meanwhile, dump leaching, heap leaching, and in situ leaching are processes used to extract metal from low-grade ore. Sulfuric acid is usually applied in copper mining. As the liquid percolates through the ore, it leaches out the metal, leaving behind waste rock and low grade ore (Dudka and Adriano 1997). Finally, mine water is water that infiltrates a mine, usually once it has been sunk below the water table, and must be drained to allow mining to continue (Dudka and Adriano 1997). Such water is polluted, not just environmentally, but also spiritually, and siphoning it into rivers and streams may harm both their ecological functions and their spiritual usage.

The RCC mine is projected to produce 1.7 billion tons of mine waste tailings (Montiel et al 2016). Much of this waste will be rock that has been treated with chemicals in order to leach the ore (Montiel et al 2016). This waste runs the risk of contaminating

nearby land and water. In the United States, mining industry wastes are usually deposited on-site (USEPA 1985). Although the RCM General Plan of Operations states that "No waste rock will be left on site at closure", it is unclear where exactly the waste rock will be placed (RCM 2016). However, the GPO recommends storing the tailings as thickened slurry, with a solids content of 35%-65% (RCM 2016). This method of storage is highly water intensive, especially with the high rates of evaporation consistent with a desert environment. It also creates a higher risk of toxic seepage and requires more land for waste storage (Montiel et al 2016). This risk is elevated by the fact that the GPO does not mention any plans to put a liner under the tailings impoundment, yet another example of RCM's general disregard for making environmentally considerate choices. Both acid drainage due to sulfide oxidation and elevated levels of trace elements are common characteristics of tailings created by metal mining (Michelutti and Wiseman 1995).

The GPO also states that RCM plans to put tailings behind an upstream tailings dam. Upstream tailings dams are one of the cheapest options for tailings storage. They are also one of the methods most subject to failure, because they rely on the stability of the tailings for their foundations, and the unconsolidated material is susceptible to liquefaction under seismic loading (Davies 2002). An analysis of US copper mines operating in 2010, representing 89% of US copper production, found that 28% had experienced partial or full tailings dam failures (Earthworks 2012). Meanwhile, 39% of tailings dam failures worldwide occur in US, significantly more than any other country (Rico et al 2008). However, tailings dam failures around the world are increasing in severity, as corporations use increasingly larger dams to accommodate growing amounts of waste. For example, on November 5th, 2015, at the Samarco Mine in Brazil, a tailings

dam, built as recently as 2009, burst, sending 150 million tons of tailings slurry and contaminated water into nearby rivers. The mountain of mining sludge caused a mud slide that buried an entire village, killing 19 people, and eventually reached the Atlantic Ocean (BBC 2016).

Biology

Chi'chil Bildagoteel and the surrounding land contain desert riparian habitat, an ecosystem of which less than 10% of the original habitat remains in Arizona (Montiel et al 2016). The dominant biotic community in the immediate vicinity of the mine is interior chaparral, with Sonoran desert scrub also being represented (Montiel et al 2016). Other biotic communities in the area include Madrean evergreen woodland and interior riparian deciduous forest (Montiel et al 2016). Many of the plant species there are significant for both ecological and culture reasons, including the endangered Arizona hedgehog cactus, and a variety of plants with medicinal and traditional usages for the Apache people.

Because of its riparian characteristics, Chi'chil Bildagoteel serves as vital habitat for a variety of local and migratory bird species, including the southwestern willow flycatcher and the western yellow-billed cuckoo. Occurrences of at least 172 species have been recorded, two of which are federally listed (Montiel et al 2016). The Tonto National Forest already lists 25 migratory species of concern. Furthermore, the region provides breeding habitat for various species of birds, including peregrine falcons. In addition to avian species, nineteen species of bats have been documented in the vicinity of Chi'chil Bildagoteel, including the endangered lesser long-tailed bat (Montiel et al 2016). Finally,

a diverse array of terrestrial species, including the endangered Sonoran ocelot and the Sonoran desert tortoise, have also been recorded in the area.

In addition to all the impacts that the loss of habitat and water would have on the local flora and fauna, there are several other biological effects that could result from having the "Proposed RCM project ...transform large portions of the Tonto National Forest from natural habitat to an industrialized mining and mine waste zone" (Montiel et al 2016). On a botanical level, the trace element uptake from soils near mines and the direct deposition of contaminants from the atmosphere onto plant surfaces can contaminate the plants both physically and poison them for traditional use (Dudka and Adriano 1997). These contaminants can, in turn, bioaccumulate in organisms higher up in the food chain.

As for other effects that the mine might have on vertebrates, most bird migration occurs at night, and the artificial light produced by the mine could potentially interfere with migration patterns. It could also interfere with bat behavior. Furthermore, the proposed tailings facility would lie immediately west of Superior and one kilometer north of the Boyce Thompson Arboretum, between an Important Bird Area and the Superstition Wilderness, in which over 200 bird species have been documented (Montiel et al 2016). The tailings and the associated contaminants could negatively impact vital habitat for many avian species.

Finally, the "Gila River and its tributaries represent major lotic waters and important riparian habitats in southeastern Arizona" due to their roles as habitat for migratory waterfowl and warm-water fish species (USFWS 1994). Any water pollution

could have significant ecosystem impacts. Several threatened and endangered fish species inhabit rivers in the watershed, including the headwater chub, the Colorado squawfish, and the razorback sucker. Water pollution could have extremely negative consequences for these vulnerable populations (Desert Fishes Team 2003).

All that is Sacred

As the threat of an impending copper mine looms over one of their most sacred sites, members of the San Carlos Apache see not just their environment but their way of life threatened. Places like Chi'chil Bildagoteel are imbued with social identity and tribal memory, connected to an Apache sense of self. Tribal chairman Terry Rambler states that

“Oak Flat is one of our religious places where our Gaan – spiritual deities and Holy People – reside. Apache people have lived, prayed, and died in the Oak Flat Area since time immemorial. We are saddened that Congress, through an 11th hour rider, has ignored the will of the people. We are concerned for our children who may never see or practice their religion in their rightful place of worship. We are worried for the children of southeast Arizona who may have to find new places to live to drink clean water. And we are gravely concerned for the American voter whose voice continues to be ignored. However, the Apache people will not remain silent. We are committed to shining light on the Land Exchange and the proposed mine until we have no breath” (ICTMN 2014).

For many indigenous groups like the San Carlos Apache, lands are protected not only for the services they provide, including food, water, and other resources, but also for their inherent worth and the vital role they play in indigenous religious traditions. Tribes tend to have a large place-based component to their respective religions. Damage to or removal from these lands amounts to government interference in religion. As Chairman Rambler states, the Apache will not cede the fight for Chi'chil Bildagoteel.

“Ninety-four elders and cultural specialists from the ten tribes most directly affected by the proposed land exchange and mine guided studies to identify what is at stake. They used their cultural compasses – their stories, songs, place names, and memories – to identify more than 400 sites having cultural, religious, and historical significance. All of this history, culture, and religion is threatened by this foreign-owned mine” (Rambler 2017).

Members of Apache Stronghold began occupying the land in February 2015, and legislative efforts against the land swap are ongoing. In June 2015, House Representative Raul Grijalva of Arizona, along with 14 co-sponsors, introduced the “Save Oak Flat Act”, a bill that would repeal Section 3003 of the NDAA and reverse the land exchange. The following November, Senator Bernie Sanders helped sponsor companion legislation in the Senate. Both bills, H.R. 2811 and S.2242, are currently stalled in subcommittees.

Conclusion

“When you dissect a fish, you cut it away piece by piece until nothing is left. That is what we’re doing to the earth,” says Wendsler Nosie,¹¹ who, along with his granddaughter, Naelyn Pike, has been at the forefront of Apache Stronghold’s efforts to protect traditional lands. The message that he wants to spread to the American people is that this is not just an Apache fight, not just a Native American fight, but a fight for everyone. Because Chi’chil Bildagoteel is on public land, land that technically belongs to the American people, by giving it to a foreign mining company, the federal government sets a dangerous precedent. This precedent, which was set under a declaredly pro-environment president, is all the more concerning now that Donald Trump has spent the

¹¹ Personal conversation, November 2016.

first few months of his presidency making it clear that he intends to slash environmental protections at the behest of corporate interests (Greshko 2017).

In the “Viceland: Rise” episode “Protect Oak Flat”, Arizona Mining Reform Coalition member and environmentalist Roger Featherstone remarked that ““Why is it that this place that’s ecologically so exquisite is also so sacred? I guess I’ve kind of learned, especially now here at Oak Flat, is that you cannot separate the sacredness from the ecology. It’s all just one package.” Just as the sacredness and the environmental importance of Chi’chil Bildagoteel cannot be separated, its protection is inextricably tied to the rights of indigenous people and to public land policy in the United States of America.

Works Cited

- AREcon. 2016. Baseline Assessment in Support of the Economic Development Plan for the San Carlos Apache Tribe. Stetson Engineers Inc.
- Basso, Keith H. 1946. *Wisdom Sits in Places: Landscape and Language among the Western Apache*. Albuquerque: University of New Mexico Press.
- BBC. Aug. 30, 2016. "Samarco dam failure in Brazil 'caused by design flaws'". *BBC News*. Retrieved from: <http://www.bbc.com/news/business-37218145>
- Blasius, H., R. Calamusso, et al. 2003. "Status of Federal and State Listed Warm Water Fishes of the Gila River Basin with Recommendations for Management". Desert Fishes Team.
- Bonnichsen v. U.S., 367 F. 3d 864 (9th Cir. 2004).
- Bridge, Gavin. 2004. "Contested Terrain: Mining and the Environment". *Annu. Rev. Environ. Resourc.* 29:205-259.
- Davies, M.P. 2002. "Tailings Impoundment Failures: Are Geotechnical Engineers Listening?". *Waste Geotechnics*.
- Deloria, Vine Jr. 1972. *God is Red: A Native View of Religion*. New York: Putnam Publishing Group.
- Earthworks. 2012. "The Track Record of Water Quality Impacts Resulting From Pipeline Spills, Tailings Failures, and Water Collection and Treatment Failures". *U.S. Copper Porphyry Mines*.
- Exec. Order No. 13007: "Indian Sacred Sites". 3 C.F.R. (1996).
- Fang, Serene. Feb. 20, 2015. "In Arizona, a controversial federal land swap leaves Apaches in the lurch". *Aljazeera America*. Retrieved from: <http://america.aljazeera.com/watch/shows/america-tonight/articles/2015/2/20/in-arizona-the-governments-copper-grab-leaves-apaches-in-the-lurch.html>
- Fiscor, Steve. Apr.17, 2014. "Sinking America's Deepest Shaft". *Engineering and Mining Journal*. Retrieved from: http://www.e-mj.com/features/3899-sinking-america-s-deepest-shaft.html#.WO0Zr_nyvIX
- Greshko, Michael. Apr.18, 2017. "A Running List of How Trump is Changing the Environment". *National Geographic*. Retrieved from: <http://news.nationalgeographic.com/2017/03/how-trump-is-changing-science-environment/>
- Guarino, Ben. Dec. 7, 2016. "Thousands of Montana snow geese die after landing in toxic, acidic mine pit". *Washington Post*. Retrieved from: <https://www.washingtonpost.com/news/morning-mix/wp/2016/12/07/montana->

snow-geese-searching-for-pond-land-in-toxic-mine-pit-thousands-die/?utm_term=.9765ff348386

- Harner, John. 2001. "Place Identity and Copper Mining in Sonora, Mexico". *Annals of the Association of American Geographers* 91:660-80.
- Helfrich, Joel. June 1, 2005. "Star Struck: The Astronomical Abuse Of Indigenous Sacred Sites." *Mount Graham Coalition*. Twin Cities Newspaper.
- Helfrich, Joel. 2010. "On Being an Active Historian and the Usefulness of History: The Case of the Ongoing Struggle for dzil nchaá si'an (Mount Graham)". *Left History* 15:149-168.
- Houlton, John E. F. 1994. *Minerals Yearbook 1992: Metals and Minerals*. U.S. Government Printing.
- Ishiyama, Noriko. 2003. "Environmental Justice and American Indian Tribal Sovereignty: Case Study of a Land Use Conflict in Skull Valley, Utah". *Antipode*.
- Jacoby, Karl. 2008. *Shadow at Dawn: An Apache Massacre and the Violence of History*. New York: Penguin Books.
- Jenkins, Heledd. 2004. "Corporate Social Responsibility and the Mining Industry: Conflicts and Constructs". *Corporate Social Responsibility and Environmental Management* 11:23-34.
- Karuk Tribe of California v. U.S. Forest Service. 681 F.3d 1006 (9th Cir. 2012).
- Kesler, Stephen E. 1994. *Mineral Resources, Economics, and the Environment*. Macmillan College Publishing Company, Inc.
- Martinez-Alier, Joan. 2001. "Mining conflicts, environmental justice, and valuation". *Journal of Hazardous Materials* 86:153-70.
- Mayer, Carl J. 1986. "The 1872 Mining Law: Historical Origins of the Discovery Rule," *University of Chicago Law Review* 53:12.
- Michelutti, B., M. Wiseman. 1995. "Engineering Wetlands as a Tailings Rehabilitation Strategy". *Restoration and Recovery of an Industrial Region: Progress in Restoring the Smelter-Damaged Landscape Near Sudbury, Canada*.
- Millet, Lydia. May 29, 2015. "Selling Off Apache Holy Land". *The New York Times*. Retrieved at: https://www.nytimes.com/2015/05/29/opinion/selling-off-apache-holy-land.html?_r=0
- Minthorn, Robin Starr; Alicia Chávez. 2014. *Indigenous Leadership in Higher Education*. New York: Routledge.

- Montiel, Alida Q., et al. July 18th, 2016. "Scoping Comments for the Resolution Copper Mine DEIS".
- National Historic Preservation Act, 16 U.S.C. § 470.
- National Park Service. 2012. "Quick Guide for Preserving Native American Cultural Resources". Retrieved at: <https://www.nps.gov/history/TRIBES/Documents/106.pdf>
- Opler, Morris Edward. 1941. *An Apache Life-Way: The Economic, Social, & Religious Institutions of the Chiricahua Indians*. Lincoln: University of Nebraska Press.
- Parker, Melanie. 2014. "Swan Story". In Charnley, S., T. E. Sheridan et al (Eds.), *Stitching the West Back Together: Conservation of Working Landscapes* (123-35). Chicago: University of Chicago Press. Print.
- Rambler, Terry. 2014. "Re: Raiding Native Sacred Places in a Defense Authorization: Everything Wrong with Congress". Indian Country Today Media Network. Retrieved at: <http://indiancountrytodaymedianetwork.com/2014/12/10/re-raiding-native-sacred-places-defense-authorization-everything-wrong-congress>
- Rambler, Terry. Feb. 15, 2017. "To Attendees of the March to Oak Flat". Speech.
- Resolution Copper Mining. 2013. "The Southeast Arizona Land Exchange and Conservation Act of 2013". *Resolution Copper Mining*. Retrieved at: www.resolutioncopper.com
- Resolution Copper Mining. 2016. "Final Environmental Assessment: Resolution Copper Mining Baseline Hydrological and Geotechnical Data Gathering Activities Plan of Operations". United States Department of Agriculture; United States Forest Service.
- Rico, M., et al. 2008. "Floods from tailings dam failures". *J. Hazard Mater* 154:79-87.
- Robbins, Paul. 2012. *Political Ecology: A Critical Introduction*. John Wiley & Sons, Ltd.
- Salomons, W.; U. Forstner. 1985. "Metals in the Hydrocycle". *Clean Soil Air Water* 13(2):267.
- Samuels, David. 2001. "Indeterminacy and history in Britton Goode's Western Apache placenames: ambiguous identity on the San Carlos Apache reservation". *American Ethnologist* 28:277-302.
- Saranillio, Dean Itsuji. 2015. "Settler Colonialism". University of Arizona Press.
- Save Oak Flat Act. H.R.2811. 114th Cong. (2015-16).
- Save Oak Flat Act. S.2242. 114th Cong. (2015-16).

- Smith, Linda Tuhiwai. 2006. *Decolonizing Methodologies: Research and Indigenous Peoples*. London: Zed Books Ltd.
- Stern, Ray. April 22, 2015. "A Copper Mine Near Superior and Oak Flat Campground Is Set to Destroy a Unique, Sacred Recreation Area — for Fleeting Benefits". *Phoenix New Times*. Retrieved at: <http://www.phoenixnewtimes.com/news/a-copper-mine-near-superior-and-oak-flat-campground-is-set-to-destroy-a-unique-sacred-recreation-area-for-fleeting-benefits-7287269>
- Trope, Jack F. 1995. "Existing Federal Law and the Protection of Sacred Sites: Possibilities and Limitations". *Cultural Survival Quarterly* 19(4).
- Tsosie, Rebecca. 2007. "Indigenous People and Environmental Justice: The Impact of Climate Change". *University of Colorado Law Review* 78:1625-1678.
- U.S. Fish and Wildlife Service. 1994. "Environmental Contaminant Investigation of Water Quality, Sediment, and Biota of the Upper Gila River Basin, Arizona". Phoenix, AZ: United States Fish and Wildlife Services.
- US Department of the Interior. 2014. "Statement by Interior Secretary Sally Jewell on the National Defense Authorization Act for Fiscal Year 2015". Washington, D.C: United States Department of the Interior.
- Vyazmensky, A., et al. 2010. "Numerical analysis of block caving-induced instability in large open pit slopes: a finite element/discrete element approach". *Rock Mechanics and Rock Engineering* 43(1):21-39.
- Warshall, Peter. 1994. "The biopolitics of the Mt. Graham red squirrel (*Tamiasciurus hudsonicus grahamensis*)". *Conservation Biology* 8:977-988.
- Welch, John R. 1997. "White Eyes' Lies and the Battle for dzil nchaa si'an". *American Indian Quarterly* 21:75-109.
- Welch, John R., Ramon Riley. 2001. "Reclaiming Land and Spirit in the Western Apache Homeland". *American Indian Quarterly* 25:5-12.
- Welch, John R., et al. 2009. "Best Cultural Heritage Practices by and for the White Mountain Apache Tribe". *Conservation and Mgmt. of Arch. Sites* 11:148-160.
- Williams, Robert A. 1994. "Large binocular telescopes, red squirrel piñatas, and Apache sacred mountains: decolonizing environmental law in a multicultural world". *West Virginia Law Review* 1133.
- Wolfe, Patrick. 2006. "Settler colonialism and the elimination of the native". *Journal of Genocide Research* 8:387-409.
- www.nasa.gov/multimedia/imagegallery/image_feature_697.html