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Silent Summer: The EPA Spill & Neglected Navajos - A Review of Environmental Tragedies in Navajo Nation & Their Effect on Diné Life

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Silent Summer: The EPA Spill & Neglected Navajos

A Review of Environmental Tragedies in Navajo Nation & Their Effect on Diné Life

By Jill Verzino
“If you have come here to help me, you are wasting your time. But, if you have come because your liberation is bound up with mine, then let us work together.”

- Lilla Watson
Abstract

On August 5th 2015, the Environmental Protection Agency (EPA) released approximately one million gallons of mine waste into the Animas River near Durango, Colorado. The one hundred and twenty-six mile long river travels through both Colorado and New Mexico and is a source of water for many individuals and farms along its path. This thesis analyzes the effects of the EPA’s spill on nearby Indigenous communities, specifically the Navajo community. Further, this thesis explores the relationship between the Diné (Navajo) and the United States government, seeing as American Indian cultures and the government deal with pre-existing hostilities. Referring to the EPA’s contamination of the Animas River and the history of mining for uranium within the boundaries of Navajo Nation, this thesis will consider the challenges Navajo men and women face as a result of energy consumption. This thesis uses the following three disciplines: politics, environmental history, and ethics. These disciplines analyze the incident of the EPA’s spill, the history of the Navajo culture and agriculture in America, and the long history of uranium mining in Navajo Nation and its tragic consequences for Navajo society. Finally, the thesis attempts to provide ideological suggestions for remedying the causes and effects of a raped ecosystem and the social injustices that come to follow for the Navajo people.
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Introduction: The EPA forgets their ‘P’:

Ironically, it was the EPA’s cleanup team that spilled one million gallons of toxic waste from the Gold King Mine of La Plata County, CO into the Animas River on August 5, 2015. The Agency’s accident turned the Animas River a disturbing shade of orange, leaving the important water source for nearby communities violently polluted. This thesis will analyze the challenges and responses of Navajo men and women who depend on the river as a vital source of water. Before discussing the short-term and long-term responses by the government and Navajo people in response to the spill, this paper will turn back time to analyze another environmental tragedy in Dinétah (Navajo Nation). Yes, the United States government has ravaged the ecosystem of Navajo Nation before. From the 1920’s to the 1980’s the U.S. Federal Government created organizations and corporations whose primary purpose was to extract radioactive materials from the earth in order to research and eventually create the atomic bomb. During this time The Manhattan Project was formed and entered Navajo lands in search of uranium. The Manhattan Project’s intent of entry and research in Dinétah needed to remain a secret, so the cover story they told the Navajo community was as follows: Mining companies claimed to be looking for Vanadium, a metal used to harden America’s steels, which would ultimately support a country’s growing infrastructure that was dependent on that steel\(^1\). To better the deal, Navajo men (and even some women) were called to be the employees of this business

\(^1\) Cities were getting bigger during this time because of the “invention” of the skyscraper. The tall buildings were capable of being built and able last because of their composition of steel.
venture, bringing economic opportunity to the reservation. As you will realize after reading more on the history of uranium mining in Navajo Nation in this paper, the recent debilitating pollution of the Animas River by a government agency is, sadly, no novelty for the Diné (The name of the culture ‘Navajo’ in their language Diné Bizaad). By examining the legacy of uranium mining and its effect on the Navajo population, we can predict how the plight of the people will worsen as a result of the EPA spill, affecting Navajo life into the future. It is my hope that people will read about uranium mining as a comparable tragedy from the past and know that, without action, history could feasibly repeat itself. I hope for readers to be disturbed by the environmental injustices imposed on Indigenous people. Only through widespread outrage is it possible to prevent a similar silence from hushing over Navajo Nation, as it once did when mining companies evacuated the area in 1986. This thesis attempts to lend an ear to the Diné people whose culture, like all American Indian cultures, has been stereotyped and whose tragedies have been neglected by popular media even when imposed by the desires of America and its government.
Chapter 1: The EPA Spill: How Did it Happen, What’s In The Water, What’s There To Do Now?:

On August 5th 2015, the EPA intended to investigate the Gold King Mine, a mine in Silverton, Colorado that has been abandoned since the 1920’s. The government agency planned to simply assess the quality of the mine’s water releases, treat that water, and discuss further methods of mine remediation.²

While working near an old adit³ of the mine, the EPA claims that, “…pressurized water began leaking above the mine tunnel, spilling about three million gallons of water stored behind the collapsed material into Cement Creek, a tributary of the Animas River.”⁴ The Animas River, which eventually flows into both the San Juan River and the Colorado River, was deluged with the contaminated acid mine waste that had previously been contained within the Gold King Mine for almost a century. This acid mine drainage caused the waterways to turn a yellow hue; this color change happens when the ore from mines is exposed to air and water, causing a chemical reaction that dramatically lowers the pH of the water, and pulls metals from surrounding rock into the water. Within days after the spill occurred, EPA officials indicated that the “pH levels reached 3.74 above Silverton in

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³ According to the Merriam-Webster Dictionary, an adit is a nearly horizontal passage from the surface in a mine.
⁴ “Emergency Response to August 2015 Release from Gold King Mine.”
Cement Creek and 4.8 below Silverton in the Animas. The pH of the water varied at different locations of Cement Creek and the Animas River; not surprisingly, measurements indicated that water was more acidic in Cement Creek, the waterway in which acid mine waste was draining into directly. The drainage itself is a rich orange-red hue, but when it leaks into the river, the drainage inevitably increases in pH as it is diluted with unpolluted water. The change in pH causes a reaction between the iron and water, and it is this reaction between the two that turns the waterways yellow.

As the fresh river water continues to dilute the acid mine drainage, the metals attach themselves to miscellaneous solids and settle with sediment at the bottom.


of the river. Thus, the yellow hue of the river began to dissipate within a few days of the spill. However, the change in color does not indicate that the water is free of dangerous pollutants. According to the Superfund Research Program at the University of Arizona, one hundred and ninety tons of metal and salt solids were released into the waterways, and among these metals were those that are notoriously toxic such as lead, mercury, arsenic, and cadmium. The following chart composed by the Superfund Research Program at the University of Arizona shows us how many pounds of each metal drained into the waterway from the Gold King Mine.

<table>
<thead>
<tr>
<th>Metal</th>
<th>Pounds</th>
<th>Metal</th>
<th>Pounds</th>
<th>Metal</th>
<th>Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>248,582</td>
<td>Copper</td>
<td>919</td>
<td>Cobalt</td>
<td>10</td>
</tr>
<tr>
<td>Aluminum</td>
<td>23,657</td>
<td>Sodium</td>
<td>586</td>
<td>Antimony</td>
<td>8</td>
</tr>
<tr>
<td>Calcium</td>
<td>11,365</td>
<td>Barium</td>
<td>244</td>
<td>Nickel</td>
<td>7</td>
</tr>
<tr>
<td>Magnesium</td>
<td>6,984</td>
<td>Arsenic</td>
<td>206</td>
<td>Mercury</td>
<td>6</td>
</tr>
<tr>
<td>Potassium</td>
<td>5,307</td>
<td>Vanadium</td>
<td>137</td>
<td>Cadmium</td>
<td>4</td>
</tr>
<tr>
<td>Lead</td>
<td>4,481</td>
<td>Molybdenum</td>
<td>50</td>
<td>Beryllium</td>
<td>3</td>
</tr>
<tr>
<td>Manganese</td>
<td>1,953</td>
<td>Silver</td>
<td>28</td>
<td>Selenium</td>
<td>n.d.*</td>
</tr>
<tr>
<td>Zinc</td>
<td>1,101</td>
<td>Chromium</td>
<td>18</td>
<td>Thallium</td>
<td>n.d.*</td>
</tr>
</tbody>
</table>

* n.d. = not detected at or above the method detection limit.

The chart lists the metal contaminants in order of quantity most released (in pounds) to least released. Iron is the most prevalent metal among those that make up the acid mine waste and is also the main contributor to the water's change

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in color. While mercury and cadmium only make up seven pounds of the total three-hundred and eighty-thousand pounds of metals, lead and arsenic make up four thousand six-hundred and eighty-seven pounds of that total. Considering it was the Environmental Protection Agency that ironically caused this crippling contamination of the Southwest’s vital rivers, many expected an immediate reaction and plan of remedy from the agency set in place to prevent these sorts of disasters from occurring. The EPA could not handle their error alone and called on local agencies and organizations to help them. The U.S. Geological Survey (USGS), U.S. Agency for Toxic Substances and Disease Registry (ATSDR), New Mexico Environment Department, Colorado Fish and Wildlife Conservation Office, Navajo Nation and the Bureau of Indian Affairs, and the Southern Ute Indian Tribe Water Quality Program were all part of an urgent response to the spill, seeing as all are stakeholders in one way or another. In an attempt to treat discharge from the Gold King Mine before it reached the Cement Creek and the Animas River, responders constructed settling ponds near the point source of drainage. These settling ponds are intended to allow responders to raise the pH level before the water exits into exterior water corridors. With the addition of lime and sodium-hydroxide into the acid mine drainage, the hope is that the pH will increase to approximately 5.0 (U.S. fresh water is tested to normally be a pH of 6.5) and that metals will fall to the bottom of the settling ponds as sediment.
This way, when the water is diverted back on its way to Cement Creek, it has been treated in some way, despite still containing residual metals and contaminants. The intent of this response is to lessen the spill’s impact on the ecosystem and the river’s dependent communities; however, the EPA’s response is only short-term despite the certainty that challenges from this spill will persist long-term. With the first spring thaw after the spill, the New Mexico Environment Department (NMED) anticipates serious problems. Ryan Flynn, secretary of the NMED is determined to address long-term effects of the spill, including this spring’s expected aggravation.

“The States of New Mexico and Utah, the Navajo Nation, and the Colorado County of La Plata are joining to create synchronized monitoring and response protocols for the Animas and San Juan Rivers while the unusually large El Niño snowpack melts, possibly re-disturbing the heavy metals deposited in the watershed last summer.”

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The secretary went on to denounced the EPA for their refusal to address long term monitoring plans.

"Unfortunately, the polluter, in this case the EPA, continues to turn a blind eye to the long-term effects of the Gold King Mine Spill, and has refused to support the regional Long-Term Monitoring Plan or the Spring Run-off Preparedness Plan."\(^\text{10}\)

Obviously frustrated by the EPA’s refusal to take long term responsibility for their detrimental accident, the affected states and watershed communities are starting to voice their due anger. Diné communities are arguably the most vulnerable to the pollution; yet their resilience as a culture and their traditional ways of knowing have continually proved to anyone who has given the time to notice that they are capable of strength among the many atrocities that colonization has dealt them.

Food and water security are immediate concerns for those of us accustomed to Western cultural thinking, but the Dine’s immediate concerns are further reaching. From agriculture to culture to tradition, the Gold King Mine spill dramatically alters the Navajo way of life. While Westernized community members may be concerned economically as, say, their river-recreation business takes a hiatus, Diné members are concerned about their community’s entire food source, their children’s participation in their culture and traditions, and the exhaustion of history repeating itself as mine waste again compromises the community’s health and lifeways, just as it did in the mid 20\textsuperscript{th} century in the midst of uranium mining.

\(^{10}\) Ryan Flynn. Clark, Chris.
This is not to say that white americans are unaffected by the Gold King Mine spill; rather, this thesis offers a focused look at Diné life after environmental trauma and examines the severity of environmental injustice and its persistance among this community that is not parraleled by white communities.

Chapter 2: Environmental Injustice on the Reservation: Uranium Mining in Navajo Nation:

Environmental injustice is, unfortunately, no novelty for the many Indigenous cultures of the United States. The United States Government most notably burdened Navajo Nation when they extracted four million tons of uranium from the reservation between 1944 and 1986. Despite the dormancy of uranium mining in the area today, five hundred and twenty abandoned mines still exist in Navajo Nation. Just as the Gold King Mine was abandoned for almost a century and was eventually the point source of an environmental tragedy, Uranium mines continue to wreak havoc on the life ways of those who live near them. Looking back to the 1940’s, we find that The Manhattan Project was the impetus for researching ways to develop (and eventually developing) the world’s first atomic bomb in the midst of World War II. The Manhattan Project founded an umbrella group, which went by the following title: the Union Mines Development Corporation. It was this project and corporation that brought the VCA (Vanadium Corporation of America) to the southwest to investigate the land’s geology for heavy metals that could aid in the production of an atomic bomb. Considering the
investigation was intended to be a secret, the VCA claimed to be looking for
Vanadium, a metal that had been used to harden steels. In Navajo Nation, the
VCA found an abundance of Carnotite, an ore with a promising composition. As
Judy Pasternak says in her book *Yellow Dirt: An American Story of a Poisoned
Land and a People Betrayed*

For every six parts of vanadium, the rock also contained one part of a heavy metal
called uranium. The uranium content, in fact, was the best way to identify carnotite
with the naked eye: it was uranium that formed those brightly hued slashes.”

The VCA pushed their way into Dinétah (Navajo land), essentially cheating
the community with contracts for land use. Many of the Diné were happy for the
jobs and money, not knowing their work would be detrimental to their health. Their
employers, those overseeing as the VCA, neglected to warn workers of the job’s
health risks or to educate workers of ways to prevent the contamination of their
physical bodies.

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Rather, the mentality of the VCA and their expectation of workers was that they should mine and collect as much uranium as possible; this included sweeping up SOM (uranium) and SOQ (uranium Oxide), which the Navajo workers referred to as “leetso” or “yellow dirt.” This yellow dirt, which is a powdered form of uranium (that releases toxic gas), would get into workers lungs, on their clothes, and be brought back to their homes and families as a result. The end of uranium mining in Dinétah, much like the abandonment of the Gold King mine, did not result in a clean separation from the contaminants and toxic metals involved.

15 Pasternak, Judy. Pg 6.
In the case of uranium Mining, it was after some time that cancer became endemic among the workers, widowing the numerous partners of miners and imparting inevitable challenges on families. In many cases, the radioactive particles damaged human genes, causing hereditary health issues and birth defects. Yellow dust, much like the inherited health defects, remains in the lives of Navajos to this day. Yellow dust permeates the earth of Navajo Nation. Many of the Hoghans (womb shaped structure with far reaching functional and cultural purpose) and

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homes of the Diné are constructed from or on this contaminated earth, not to mention the soils from which farmers are cultivating necessary food. Navajo Nation is composed of “more than 16 million acres of land, it is larger than Ireland and about one-fifth the size of Japan” yet has only thirteen grocery stores supplying this area and a population of about 423,000. That being said, Diné farming and ranching are important sources of food sovereignty in Dinétah.

It is useful to compare uranium mining in Dinétah to the Gold King Mine spill in order to predict the government’s long-term response and aid for Navajo men and women. In the case of uranium Mining's residual challenges, it is difficult to pin point where the blame lies today. The Navajo people were told many lies and also led blindly into work that seemed economically sound rather than crippling to their own and their children’s health. Had they known this, the community would have inevitably protested the various mining corporations’ interferences and refused to work in the mines. Alas, these corporations and their employees who deceived Navajo workers are either dead or separated from their past work.

Ultimately justice needs to be served by the United States Government, seeing as they funded the research for nuclear warfare and, thus, the exploitation of Navajo men and women. Unfortunately, but not surprisingly, it is not as easy as blaming the federal government and demanding monetary assistance to receive funding for medical care and environmental cleanup. The federal government claims it is out

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of their financial capabilities to provide healthcare for those living with the repercussions of uranium mining.

Despite the tragedies that continue to occur on Navajo Nation as a result of uranium Mining, Hydro Resource inc. is currently trying to instigate what is called “in situ” mining in Churchrock, New Mexico. In fact, it was Churchrock, NM that saw one of the most devastating follies of uranium mining during its time in July of 1979. The UNC (United Nuclear Corporation) had been mining in Churchrock when water from the uranium mill’s tailing pond penetrated its dam. This breach released one thousand tons of radioactive waste and over ninety million gallons of acidic radioactive tailing solution into the Puerco River. Much like how

contaminated water from the Gold King Mine in the Animas River eventually flowed into to San Juan and Colorado Rivers, the Puerco River is a tributary to the Little Colorado River which in turn flows into the Colorado River. Thus, this radioactive mine waste from the Churchrock Mill wreaked havoc on southwestern rivers and their watersheds. Yet, even despite the history of environmental trauma there, corporations are still trying to continue mining in Churchrock.

Hydro Resources Inc. desires to puncture the earth in the same way oil companies do when they utilize the method of Hydraulic Fracturing to retrieve fossil fuels. Hydraulic Fracturing, also and more commonly known as “fracking,” is by definition “the injection of fluid into shale beds at high pressure in order to free up petroleum resources.”20 In Situ Recovery would require many of the same steps that fracking already uses to retrieve resources, and these processes are highly controversial and have incited much debate about their safety for the environment and the humans inhabiting the areas in which these practices occur. There has been evidence to suggest that hydraulic fracturing contaminates drinking water and emits pollutants into the air that cause irreversible damage to human respiratory and nervous systems. In the article People Not Pozos, published by a Los Angeles non-profit called Esperanza, community members of University Park spoke of health problems they saw arise when fracking began near their homes.

20 “Fracking” Merriam-Webster Dictionary.
“People came to share their stories and symptoms that they experience as a direct result of living steps away from an active oil well. One by one, residents of the neighborhood spoke of the harm they have either felt or witnessed in their own families including constant dizziness, nausea, headaches, and respiratory ailments. One mother spoke of her son’s nightly nosebleeds; another described her fear of opening the windows and exposing her children that much more to harmful chemicals. These fears and stories are common in the University Park community.”

Many residents of near by fracking sites have reported declined health after the commencement of oil extraction methods; however, the controversy surrounding fracking and in situ mining’s safety is still not enough to prevent it from taking place.

It would seem to me that the history of environmental tragedies in Navajo Nation and the social trauma that remains on the reservation as a result should be reason enough to not promote further mining in Churchrock, New Mexico. But, of course, money making energy seeking conglomerates are not interested in the past or the people. Rather, they seek to fulfill their interests without challenge, and leave without addressing the long-term repercussions of their actions.

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This image maps the layout and processes of in situ recovery. Granted, this image was taken from worldnuclear.org, so the color choice, organized labeling, and condensed information is subjective. Nonetheless, any person skeptical of energy corporations can look at this and see there are similarities between in situ recovery and fracking, and that no one can promise that any form of energy extraction is safe. Whether it be fossil fuels or radioactive materials being extracted, history, current events, and science have all proved to us that the inhabitants of any ecosystem being tapped into are always at risk.

In 2012, the Radioactive Materials Transportation Act passed by the Navajo Nation Council gave the nation the control to monitor and regulate the

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transportation of uranium on the reservation. This act was passed in hopes of preventing a repeat of problems caused by uranium mining in the last century.\textsuperscript{23}

However, in 2013, the Resources and Development committee of Navajo Nation passed a resolution to the Act of 2012 that allowed "the right-of-way and surface use by Uranium Resources, Inc. for the purpose of an in situ uranium recovery project in the community of Churchrock, N.M."\textsuperscript{24} The Council met in July of 2014 in an attempt to repeal this resolution passed in December of 2013. Some Delegates referenced different acts passed by the council in the past, showing that the resolution to allow Uranium Resources Inc.'s project to commence would be out of regulation. Some Delegates, on the other hand, were hesitant to challenge the resolution made by the Resources and Development committee. In the end, the Council voted to nullify the resolution that would give any right-of-way to the URI, 18 to 3. "By nullifying this [resolution] we are saying “no” to any future uranium exploration on the Navajo Nation,’ stated Delegate Nez. ‘We need to all take a stand once again, to those major industries and companies throughout the globe and stay steadfast and say no more, enough is enough.’\textsuperscript{25}

Navajo leaders and community members alike are fed up with outside corporations manipulating their

\textsuperscript{23} Paper Rocket Productions. "Dooda Leetso The Legacy of Navajo Nation Uranium."
way into Dinétah for the sake of energy consumption. It seems Navajo Nation community members are constantly trying to either prevent environmental tragedy from occurring or trying to compensate for its long-term effects.

Chapter 3: Federal, Regional, and Navajo Long-Term Responses to the EPA Spill:

As mentioned before, the EPA is doing very little to address the inevitable long-term effects of the spill into the Animas River. While they have implemented methods to try to control the breach from the source of the Gold King Mine spill and have done some immediate water testing, the EPA refuses to sign off on plans that regional agencies and organizations have proposed to them (Environment Department-Secretary Ryan Flynn, as mentioned in chapter 1) to combat the inevitable challenges of the future. It seems that the EPA is fond of washing their hands of problems they have caused or are, at least, directly linked to. In the recent case of the Flint water crisis, the EPA maintained that the water remained in the “safe range” of contaminants until November of 2015 when Michigan citizens discovered the horrors of their water system. The EPA, however, was aware of the water’s contaminant content well before this time; specifically, since Flint’s water supply was diverted from its original source at Lake Huron to instead be taken from the Flint River.26 While American’s point fingers at

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both Governor Snyder and the EPA, the EPA points fingers back at Snyder and the Michigan regional government in an attempt to, like I said, wash their hands of and with dirty water.

Since the EPA is offering little to no extended help (in the same way the mining companies never cleaned up after themselves [not that uranium mining can be entirely cleaned up after]), the Regional government and Navajo community have been conjuring their own long-term plans and responses to the spill. A regional evaluation and Long-Term Monitoring Plan was compiled by the following six executive agencies: Environment, Agriculture, Fish & Game, Health, Homeland Security, and Office of the State Engineer. These agencies collaborated with the following institutions and organizations to create a long-term plan with the New Mexico Environment Department: New Mexico State University, the New Mexico Water Resources Research Institute, New Mexico Tech, the New Mexico Bureau of Geology and Mineral Resources, the University of New Mexico, San Juan County, the City of Farmington, and the San Juan Soil and Water Conservation District.\(^\text{27}\) In the official Long-Term Monitoring plan Document, one can read the intended monitoring elements. These elements include public drinking water systems, surface water quality, sediment, solids characterization, aquifer-river interactions, regional ground and surface water hydraulics, groundwater quality,

ongoing and potential future discharges in the mining area, airborne dust, plants and animals, and biomonitoring. For each of these elements, the document offers a description of their “goal” for that element, and also a plan of action for achieving that goal. The common ground underlying all of these elements and their need for monitoring is that they are all physical places and aspects of human life where contaminants can potentially migrate and cause harm.

The following image is an illustration provided in the Long-Term Monitoring Plan document. The illustration shows many of the areas where contamination can and has occurred as a result of the EPA spill. The image gives a visual for the reader to understand the monitoring elements, monitoring goals, and planned actions for combating contamination.
A hyporheic zone, as defined in the abstract of the article *The Functional Significance of the Hyporheic Zone in Streams and Rivers*, is "an active ecotone between the surface stream and groundwater. Exchanges of water, nutrients, and organic matter occur in response to variations in discharge and bed topography and porosity. Upwelling subsurface water supplies stream organisms with nutrients while downwelling stream water provides dissolved oxygen and organic matter to microbes and invertebrates in the hyporheic zone."\(^{28}\) Contamination can...

be detrimental to ecological services that many of us deem obscure, like those provided by hyporheic zones. This long-term plan compiled by the New Mexico Environment Department has a different scope of interests than the plans being composed by the Diné community. It is interesting to compare the two plans to see how the Navajo intend to address their needs and challenges differently.

Navajo men and women experience the outcome of the spill culturally and spiritually; thus, members of Navajo Nation have taken on the task of developing specific plans to address those needs. Larry Emerson is a Diné educator and community leader in Shiprock, New Mexico. Larry shared with me the immediate and long-term plans that he and his community members in Shiprock have been discussing since the tragedy occurred in August. While many of the proposed plans are similar to those made by the New Mexico Environmental Department, (i.e. water sampling, sediment sampling, plant and animal testing, etc.) others are more specific and culturally sensitive. For example, sweat lodges, a vital location for ceremonies within Diné culture and spirituality, can become dangerous places for the community to utilize. When asking Emerson how specifically the sweat lodges would be at risk, he responded with the following:

“Assuming toxic metals collect on/near river banks and river bank sand is subject to drying, when March winds come, the pollutants can be carried by the strong
winds."\textsuperscript{29} Emerson says that other structures could be affected by this migration of pollutants as well. If you recall, in chapter two we discussed yellow dust (uranium particles) and its persistence in the earth long after mining had ended in Navajo Nation. The yellow dust resided in the earth that many homes, foundations, and Hoghans were built of; thus, the heavy metals and particles that were released away from the Gold King Mine have the potential to dry in river banks and be carried by winds far beyond there place of origin. Structures, and sacred ones at that, are at risk of being built with heavy metals and poisonous particles as part of their infrastructure. Sweat lodges with contaminant materials are particularly dangerous because the fires producing their characteristic warmth will burn the hazardous particles; they will in turn be emitted into the air through smoke and breathed in by a given ceremony’s participants.

Emerson has also been discussing agriculture with his community members. Farming in Navajo Nation is important seeing as the reservation is a food desert. There are only thirteen grocery stores in the entire reservation that is home to nearly half a million people and now farmers need to worry about the water they are using to irrigate their crops. Much of their water source comes from the San Juan River, which has been contaminated as the Animas River flows in with its toxic waters. In a presentation Emerson gave, he offered a method farmers could try in an attempt to purify their irrigation water.

\textsuperscript{29} Emerson, Larry. "Study Will Focus on Gold King Mine Spill Effect." Message to the author. 28 Feb. 2016. E-mail.
On-farm sedimentation ponds to reduce pathogens

These on farm sedimentation ponds are comparable to those the EPA implemented at the site of the spill around the Cement Creek (as mentioned in Chapter 1). While the EPA’s sedimentation ponds were large scale attempts to impede immediate contamination of the water flowing to the Animas River, the ponds Emerson proposes are of a smaller scale with a more specific, long-term function; a technique for community farmers to cope with agricultural challenges as a result of the spill. The goal of the process Emerson proposes is for poisonous particles to settle at the bottom of each pond. After particles settle, the water will be released to the second pond, then again to the third, and so on until, hopefully, most of the contaminants have settled out of the irrigation water and remain at the bottom of the ponds. Of course this method does not solve all problems, seeing as
the issue of pollutants in the soil still remains. I think it is important to point out that Emerson’s interactions with the community have been more personal than the response of the EPA or the New Mexico Environmental Department. Emerson is addressing cultural concerns and community-specific economic concerns. He knows what fellow inhabitants of Shiprock need to survive and what makes up their daily routines and priorities. On the personal level, Emerson promotes short-term and long-term responses that are specifically helpful for Diné men and women.

As a reader, you are probably inclined to feel as though the outcome of the EPA spill will likely parallel the outcome of uranium mining in Dinétah. When asked how he compared the two environmental tragedies and how he predicted the EPA spill’s aftermath would play out, Emerson expressed doubts for a federal government response.

“This is a historical pattern. In the Gold Mine spill example, the corporations existed 100 years ago and are nowhere to be found when it comes to accountability. Descendants of the Gold Mine corporations are around but they do not feel accountable for anything. This is probably because of the lack of intergenerational and historic accountability for each other.”

Emerson agreed with me that the similarities are dauntingly present, and that neglect by non-native media, government, and citizens is likely. While being

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reasonably pessimistic and skeptical about a Western culture’s response to the spill, Emerson was optimistic about the Navajo community’s efforts of retaliation and problem solving.

“We have better laws and sense of resistance now. The Navajo Nation is better prepared to fight back with our battery of lawyers and activists. We have our own Navajo EPA department that has the highest standards around. We have a better system to communicate with each other: Navajo language radio and TV, social media, at least three Navajo newspapers and a local government system that knows how to fight back. Young Navajo activists, too, are more than willing to fight back and have the tools like the colonization – decolonization framework to communicate issues out to the world… Finally, the traditional people have emerged as leaders in the struggle that not only includes environmental injustice but also land, culture, language, spiritually, water, air, sunlight and so on. Most importantly, the traditional people are ‘teaching back’ by providing a whole different way of knowing regarding our lives on this planet.”

With those words from Larry Emerson, my Western cultural way of knowing the situation was completely turned over. I realized that my mentality had been “What will my government and my people do to combat our historical neglect of the Navajo?” not “What will the Navajo do to combat our neglect.” My

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understanding of the situation was for some reason confined. Colonized. Part of me believed that enormous challenges were imminent and that what had and would happen on the reservation was entirely dependent on my culture’s (Western culture) screw up and expected lack of response.

The reality is, the Diné people are antifragile. Antifragile is a term coined by Nassim Nicholas Taleb in his book “Antifragile: Things That Gain from Disorder.” In this book, Taleb defines antifragile, the opposite of fragile, to be the following: “Antifragility is beyond resilience or robustness. The resilient resists shock and stays the same; the antifragile gets better.”

Emerson repeated how Navajo Nation is better suited to combat environmental injustices committed by the federal government this time around.

Chapter 4: Conclusion: Policy and Ideology Suggestions for Environmental and Social Injustice in Navajo Nation and Beyond:

It is my belief that political action will not occur until there is widespread public concern for an issue. In the midst of my research and during the process of writing this thesis, I found that most people I spoke to about my progress had never before heard of the EPA spill in August 2015, nor were these people aware of the history of uranium mining in Navajo Nation from 1940 to 1980. After learning about a specific instance of environmental injustice that Indigenous cultures face, those people felt more compelled to be educated on the topic and to

publicly share their dissatisfaction. That being said, I believe there is much to learn from the Black Lives Matter movement, which emerged from recent and historical acts of horrific injustice against Black Americans perpetrated by police forces, justice systems, and racism. The movement urges immediate change by highlighting the challenging experiences of being black in the United States, such as facing racism and inequality on a daily basis.

Advocates of the Black Lives Matter movement come from many different cultures, races, and socioeconomic standings. There are advocates who are not black and do not share any of the same experiences as a black American, yet still support the urge for change. Even though white supporters of the movement cannot relate to the experiences of black men and women on many levels, they have the power to be educated on and not ignorant of the injustice their fellow American citizens face because of the color of their skin. Even though a white man cannot relate to a black man, he can feel compassion for that person and know the injustice they face is wrong and unacceptable. So what does this have to do with environmental injustice in Navajo Nation? Well, while I do not believe I am capable of or in the position to conjure a solution to this enormous, tragic, and pressing issue, I do believe a solution will come about through a movement similar to (yet also different than) the Black Lives Matter movement.

Indigenous cultures and people have been independently igniting movements for many years. As to not divert too far off track from environmental injustice in Navajo Nation, I will name just a few of these many movements and
organizations in history: The American Indian movement of 1968 which involved
the coalition of all American Indian cultures with the goal of uplifting Indigenous
spirituality and overturning corrupt U.S. government policies pertaining to Native
rights\(^{33}\); The International Indian Treaty Council founded in 1974 is a platform for
Indigenous peoples to advocate for their human rights, domestically and
internationally. The council seeks to uphold that “Indigenous Peoples speak for
themselves before the world community.”\(^{34}\); The Anicinabe Park Occupation in
1974 where Native youth demanded the human rights of better education, land,
and healthy living conditions.\(^{35}\) Even with the progression accomplished through
these powerful movements, Indigenous cultures still see the brunt of racism,
environmental, and economic injustice. Perhaps I am cynical, but I do not believe
that one movement will act as the be-all-end-all for racial and environmental
injustice in America. This will, unfortunately and disappointingly, take time.

However, I do believe that a widespread movement as powerful (and often
controversial) as the Black Lives Matter movement would be helpful in grasping
the attention and compassion of the American people; specifically those who are
currently ignorant to these issues. This way, those previously ignorant may begin
to understand the hardships of American Indian men and women in our society.

Recall the following words by Emerson in Chapter Three, “Young Navajo activists,

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\(^{35}\) News, CBC. "Anicinabe Park Occupation Observed in Kenora, 40 Years Later –
occupation-observed-in-kenora-40-years-later-1.2744139>.
too, are more than willing to fight back and have the tools like the colonization –
decolonization framework to communicate issues out to the world…” Nihígaal bee liná is a current Navajo youth activist group that hopes to revive Navajo culture and raise awareness on environmental injustices happening there. On the activist group’s Facebook page, there is a public description that offers words of their intention:

“The Navajo Nation sits on one of the richest energy corridors in the United States, and for close to a century, we have been on the frontline of resource colonization to provide cheap energy and water to the cities in the Southwest… approximately 1/4 of our people today live without electricity and running water on the Navajo Nation, while our economy functions at an unemployment rate of about 60%, and our young people are leaving due to lack of opportunity… As young people, we realize that we can't continue on like this. We need clean air, water, and a viable lifeway for our people. In facing this crisis of our future, the idea of walking to raise awareness was born.”

The group embarked on a walk throughout the entirety of Navajo Nation on September 23rd, 2015. They walked to honor their ancestors who were forced to walk away from their homes to imprisonment brought on by colonization. They also walked to show the nation’s beauty that is ravaged by resource extraction.

I am a novice in this realm; it is beyond me (and I would argue beyond most) to simply propose one or two policies for an issue as complex and multifaceted as the environmental injustices occurring in Navajo Nation as a result of racism, social dogma, and resource exploitation. I do not believe anyone can easily navigate solutions to the harsh racial climate of the United States. No governmental policy or law will single handedly end racism and the neglect of vulnerable communities. Change will come when true compassion overrides the

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idea of tolerance. Tolerance, in my opinion, suggests a sort of neglect rather than active acceptance and love. If we tolerate someone, it is implied we do not have to care for that person. We can simply ignore them, indifferent to their existence and how their lives relate to us or coincide with the earth we share. This is not the sort of world I want to live in or leave behind, a simply tolerant world. The ideal, to me, is a compassionate world. One where we lift up those whom have been historically rejected and do everything in our power to right the wrongs committed against them. What we see happening in Navajo Nation is, so far, an example of history repeating itself with no attempt at righting any wrongs that we could have learned from.

I hope readers are disturbed by the lack of compassion offered to Indigenous cultures. The very people that first inhabited this land we now call home have been ravaged by colonization, energy consumption, and racism (to only name a few). In the past century, American citizens have proved that we have the capability to be compassionate and to stand up against the injustices of our society. Whether for civil rights, women’s rights, environmental justice, or black lives, the American people have dedicated their time and energy to movements that grasp human attention internationally. Once that attention is held, humans hold the great power of making change for the better. So I leave you with unanswered questions and the challenge to answer them: What would the world look like if we gave the attention that is deserved to cultural activists that we typically ignore? How could America change if we gave activist groups like
Nihígaal bee iliná and their walk across the Navajo Nation national and international publicity? Would we understand that the vast societal neglect of American Indian communities is wrong? Would we feel compassion as a nation to uplift those who bear the brunt of Western culture’s faults and ignorance? I do not know the answer to these questions, but I do know that I would like to find out.
Works Cited


