Fracking in Pueblo and Diné Communities

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Abstract

Fracking must be regulated from a tribal perspective and ultimately phased out by renewable energy sources in order to prevent environmental contamination and threats to health and safety. Like many other components of extractive industry, fracking disproportionately harms indigenous communities due to the socioeconomic status of indigenous communities, their unique relationship to the land (and specifically to water), and other harmful effects of colonization and racialization. This Comment explores the proposed and ongoing fracking near Chaco Canyon and discusses the environmental justice issues this raises for indigenous communities in New Mexico. This discussion is timely, as the Bureau of Land Management and the Bureau of Indian Affairs recently released the long-awaited Farmington Mancos-Gallup Draft Resource Management Plan Amendment and Environmental Impact Statement, which amends the original Environmental Impact Statement for the Chaco Canyon area. This Comment highlights the unregulated nature of fracking (specifically the uncertainty of spills, cleanup and remediation), its exemption from several environmental statutes, and the threats it poses to groundwater and general water quality. The pervasiveness of these issues suggests that the most direct solution lies in cultural sovereignty and decolonial approaches to land management.

About the Author

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Table of Contents

Introduction

Located in the seemingly barren, yet beautiful, desert of northwestern New Mexico, the living and historic Greater Chaco landscape is surrounded by hundreds of oil and gas wells. For the fossil fuel industry, these oil and gas deposits are just the beginning. While commonly thought of as a National Park that protects impressive archaeological ruins of a complex ancient society, Chaco Culture National Historical Park and its surrounding area actually composes a sacred landscape[1] for several tribes. For thousands of years, tribes have

1. The National Park Service and Bureau of Ocean Energy Management definitions and discussions of cultural landscapes help illustrate the indigenous notion of sacred landscapes. Indigenous Cultural Landscapes, https://www.nps.gov/cajo/learn/indigenous-cultural-landscapes.htm (last visited April 28, 2020) [https://perma.cc/R2ZF-U329] ("American Indian places were not confined to the sites of houses, towns, or settlements. The American Indian view of one's homeland is holistic rather than compartmentalized into the discrete site elements typically used in our language today such as 'hunting grounds', 'villages', or 'sacred sites'"); David Ball et al., A Guidance Document for Characterizing Cultural Landscapes (2015) (defining tribal cultural landscape as a place where a relationship exists between a spatial area and a group of indigenous people whose culture connects them to that place). The Bureau of Land Management has not defined cultural landscape and has in fact emphasized the multiple-use theory of public lands in lieu of doing so.

depended on this landscape for clean water, subsistence, and cultural uses. In recent years, however, the landscape surrounding Chaco Culture National Historical Park has come under threat by fossil fuel companies who wish to extract oil through hydraulic fracturing, also known as fracking. This proposed fracking would impact the integrity of the Chaco landscape as a priceless cultural resource and compromise the health and safety of indigenous communities who call the area home.

Proposed and ongoing fracking in the Chaco landscape presents water-related environmental justice issues for Pueblo and Diné[2] communities in New Mexico. Indigenous communities are uniquely vulnerable to fracking because of their socioeconomic status and relationship to their homelands where fracking takes place. In particular, because water plays a large and distinct role in indigenous cultures, lifeways, and political movements, fracking disproportionately impacts Southwest indigenous communities. The Bureau of Land Management and the Bureau of Indian Affairs recently released the long-awaited Farmington Mancos-Gallup Draft Resource Management Plan Amendment and Environmental Impact Statement,[3] which amends the original Environmental Impact Statement for the Chaco Canyon area. This plan, while meant to account for different uses of the area and different impacts of additional fracking wells on nearby communities, does little to put the affected communities at ease.

A fracking ban is warranted because fracking is unregulated, potentially threatens both groundwater and surface water, and lacks effective and efficient remediation. Moreover, given that indigenous peoples of the Southwest experienced extreme land dispossession throughout various periods of colonization, and are still denied full autonomy over lands that are culturally and politically significant to them, a fracking ban is particularly warranted in the Chaco landscape. The United States' legal system, specifically environmental and administrative law, fails to adequately regulate fracking in indigenous communities, and thereby continues to uphold this history of colonialism and white supremacy. The story of fracking in the Chaco region is more than just one isolated incident; the phenomenon of the fossil fuel industry harming indigenous peoples is endemic to the experience of colonized peoples.

To move forward from these injustices, tribes and indigenous communities[4] must assert tribal cultural sovereignty, coregulate federal and state

Bureau of Land Mgmt., A Landscape Approach: How We Manage, https://www.blm.gov/about/how-we-manage (last visited April 28, 2020) [https://perma.cc/S99T-MURK].

2. This Comment uses the term "Diné" as opposed to Navajo when referring to people who are enrolled with the Navajo Nation, identify as having Diné ancestry, and/or are accepted as a part of the Diné community.

3. Bureau of Land Mgmt., Bureau of Indian Affs, Farmington Mancos-Gallup Draft Resource Management Plan Amendment and Environmental Impact Statement ES-I (Feb. 2020).

4. In this Comment, tribes are distinguished from collective communities of indigenous peoples to illuminate the diversity in perspectives and strategies within these interacting groups. Additionally, individuals may not be formally affiliated with a tribe but may still

lands outside tribal borders, and promote anti-authoritarian approaches, such as grassroots movements, to ensure water protections for Pueblo and Diné communities in New Mexico. These strategies are essential to maintaining a healthy environment for Pueblo and Diné peoples and the future of all New Mexican communities.

I. The Chaco Landscape: Place and People

> "The ancient Pueblo people called the earth the Mother Creator of all things in this world . . . In the end we all originate from the depths of the earth."[5]

The significance of fracking on the Chaco landscape is best explained by first providing a description of the landscape's history and its importance to indigenous peoples in the Southwest as a sacred place and a homeland. The Chaco landscape is located in the San Juan Basin, the large structural basin comprising Northern New Mexico and Southwestern Colorado.[6] Archaeological research has revealed hundreds of ancient Pueblo settlements spanning beyond the Chaco Culture National Historical Park for over 60,000 square miles (roughly the size of the state of Georgia).[7] Ancestral Pueblo people began living in the area as early as 490 A.D. and remained until 1400 A.D., until they migrated, likely due to drought.[8] Beginning in the twelfth century, the area was also inhabited by Diné ancestors.[9]

For Pueblo people, land and story are inherently connected.[10] One cannot exist without the other, and both are necessary for the cultural survival of the Pueblo. Leslie Marmon Silko, a Pueblo of Laguna author, writes:

> In A.D. 1100 the people at Chaco Canyon had built cities with apartment buildings of stone five stories high. Their sophistication as skywatchers was surpassed only by Mayan and Inca astronomers. Yet this vast complex of

claim a particular indigenous identity, some individuals may reject their tribal government, and some individuals have formed organizations and alliances that comprise several groups of indigenous nations and peoples.

5. Leslie Marmon Silko, *Landscape, History, and the Pueblo Imagination*. 57 Antaeus, Autumn 1986, at 1004.

6. Farmington Resource Management Plan with Record of Decision, 1 (2003) [hereinafter 2003 RMP].

7. Casey Sanchez, *The Threat to Chaco: School for Advanced Research Hosts Ruth Van Dyke*, The Santa Fe New Mexican, Feb. 7, 2020, https://www.santafenewmexican.com/pasatiempo/books/talks_lectures/the-threat-to-chaco-school-for-advanced-research-hosts-ruth/article_742a1d90-4122-11ea-8b8c-3b334f83d471.html [https://perma.cc/YLQ3-5NCR].

8. History & Culture, https://www.nps.gov/chcu/learn/historyculture/index.htm (last visited May 9, 2019) [https://perma.cc/LLQ7-SDHT].

9. *Id.*

10. For many Pueblos, stories are sacred knowledge not meant to be shared outside the tribal community for several reasons. Some Pueblos feel it is inappropriate to discuss the exact cultural significance of Chaco landscape. The increasing pressure surrounding this dispute has forced Pueblos to divulge more than ever and warrants a brief explanation for this Comment.

> knowledge and belief, amassed for thousands of years, was never recorded in writing. Instead, the ancient Pueblo people depended upon collective memory through successive generations to maintain and transmit an entire culture, a world view complete with proven strategies for survival.[11]

Chaco Canyon was a ceremonial and economic hub for ancient indigenous peoples.[12] As the place where knowledge of solar and lunar cycles evolved, it is both a metaphoric and literal part of many Pueblo migration narratives.[13] Pueblo people ritually revisit both stories and landscapes. The Pueblo relationship and understanding of Chaco Canyon does not align with non-indigenous understandings of normative land use or ownership. Even though Pueblo people revisit Chaco Canyon both physically and in story, there is usually no visible evidence of Pueblo physical presence or disturbance. Thus, early colonizers and current oil and gas companies mistakenly believe that Pueblo people no longer use the landscape or are unaffected by development on the land. Yet both Pueblo and Diné people know that the Chaco landscape, like many sacred places, is a living landscape.

The Chaco landscape's history of land ownership and use paints a picture of gradual and ongoing indigenous land dispossession. From the 1500s to the 1800s, New Mexico underwent successive colonization by Spain and Mexico.[14] In 1823, the New Mexican governor surveyed and documented the Chaco landscape and its ruins.[15] At the time, Spanish settlements in the San Juan Basin were almost nonexistent.[16] But the area was the site of battles between Spanish settlers and the Diné.[17] Spain, allied with the Pueblos, conquered the area.[18]

As summarized by Christine Klein, "in the spirit of 'manifest destiny,' the United States declared war against Mexico on May 13, 1846" in order to acquire Californian and New Mexican territories.[19] After the signing of the Treaty of Guadalupe Hidalgo in 1848, the United States gained control of these territories.[20] During early U.S. occupation, indigenous land claims were systematically eradicated. The Chaco landscape became classified as public land due to its perceived vacancy, despite the land being used as a place of quiet prayer

11. Silko, *supra* note 5 at 882.

12. *Id.*

13. *Id.*; *see also* Gregory A Cajete, *Children, Myth and Storytelling: An Indigenous Perspective*, 7(2) Glob. Studies of Childhood 113, 115–116 (2017) (discussing myths with metaphors as "interpreted accounts of the world experienced through the lives of the tribe").

14. Christine A. Klein, *Treaties of Conquest: Property Rights, Indian Treaties, and the Treaty of Guadalupe Hidalgo*, 26 N.M. L. Rev. 201 (1996).

15. Paul F. Reed, The Puebloan Society of Chaco Canyon 16 (Greenwood Publishing Group, 2004).

16. Mancos-Gallup Resource Management Plan Amendment and Environmental Impact Statement, Bureau of Land Mgmt., Farmington Field Office, 2–91 (2015) [hereinafter 2015 RMP/EIS].

17. *Id.*

18. *Id.*

19. Klein, *supra* note 14.

20. *Id.*

and seasonal pilgrimage, harvest, and livestock range.[21] Formal eradication of indigenous land ownership began with the 1868 Treaty at Fort Sumner, which established an official Navajo reservation.[22] The 1868 Treaty at Fort Sumner shrunk Diné territory to all but a small portion of Diné ancestral homeland, excluding the heart of the Chaco landscape.[23]

A 1869 New Mexico territorial court ruling eliminated the federal trust duty to protect Pueblo lands from settlement.[24] The court held that because the "honest, industrious, and law-abiding" Pueblo people did not fit the court's racist view of "savage" Indians, Pueblos had unrestricted power to dispose of their lands.[25] This decision was confirmed in 1876 by the Supreme Court in *United States v. Joseph*, making federal statutes protecting Indian land from speculation and settlement inapplicable to Pueblos.[26] Both the treaty of Fort Sumner and this 1876 Supreme Court decision illustrate a federal policy of removing indigenous people from the Chaco landscape, converting Pueblo and Diné land ownership within the area to public land, and opening it up to excavation and exploitation.

The American Museum of Natural History began excavation of the Chaco landscape in 1896.[27] In response to activities of private landowners who were thought to be disturbing the areas then classified as archeological sites, President Roosevelt created the Chaco Canyon National Monument in 1907 under the Antiquities Act of 1906.[28] In 1980, the Chaco Canyon National Monument was redesignated the Chaco Culture National Historical Park by Congress, adding 13,000 acres to be managed by the National Park Service.[29]

The United States' partial preservation of the Chaco landscape as an archaeological resource embodied a shift in American perception of public lands and landscapes in general. Yet, it is telling that only certain archaeological sites within the Chaco landscape are protected. For indigenous peoples, most forms of archaeology are destructive and antithetical to their beliefs, as archaeology historically relies on excavation and study of sacred sites and

21. Reed, *supra* note 15; Klein *supra* note 14.

22. Deborah Lacerenza, *An Historical Overview of the Navajo Relocation*, Cultural Survival, September 1988.

23. *Id.*

24. Klein, *supra* note 14, at 213.

25. *Id.*

26. U.S. v. Joseph, 94 U.S. 614 (1876); *but see* U.S. v. Sandoval, 231 U.S. 28 (1913) (finding lands of Pueblo Indians in New Mexico are subject to legislation of Congress and exercise of its guardianship over Indians).

27. Michal Strutin, Chaco: A Cultural Legacy, 12–17 (Western National Parks Association 1994).

28. Brian M. Fagan, Chaco Canyon: Archaeologists Explore the Lives of an Ancient Society, 33 (Oxford University Press 2005).

29. Nat'l Park Serv., A Brief History of Chaco Culture National Historic Park, https://www.nps.gov/chcu/learn/upload/Chaco-Brief-History.pdf [https://perma.cc/4D-MK-WCSW].

ancestors. Indigenous peoples rarely characterize areas of cultural significance as being in need of preservation, as those areas are a living and continuing part of their lives. Thus, non-indigenous preservation and land management is narrow in comparison to, if not in conflict with, indigenous land management. The Chaco Culture National Historical Park, like many other national parks, has two important functions for non-indigenous peoples. The first is to uphold the narrative of "pristine wilderness," which erases indigenous land use and presence and thereby upholds settler colonialism and white supremacy.[30] The second function is to support a profitable research and tourism industry. This non-indigenous understanding of the Chaco landscape and its value leaves land outside the Park boundaries unprotected and open to development.

Today the Chaco Culture National Historical Park is surrounded by tribes: the Southern Ute Reservation lies to the north, the Navajo Nation Reservation to the east, the Jicarilla Apache Nation to the west, and the Laguna and Zuni Pueblo Reservations to the south. McKinley and San Juan County overlay the Chaco landscape. The population of McKinley County is about 70,000, with 70 percent of that population categorized as American Indian.[31] The population of San Juan County is 130,000, with 40 percent categorized as American Indian.[32] While several tribes have strong cultural ties to the Chaco landscape, the Pueblos and the Diné people are the focus of this Comment, as their opposition to fracking in the Chaco landscape has been the most aggressive and successful to date.

II. Fracking Technology, Regulation, and History

Fracking is a technique used for extracting oil and natural gas. This method drills down one to two miles beneath the surface of the earth and uses extremely high fluid pressure to fracture the rock below, creating fissures for the oil and gas to flow through.[33] The fracking fluid consists mostly of water, but also usually includes a very small percentage of additives such as detergents, salts, acids, alcohols, lubricants, and disinfectants to increase viscosity and allow the fluid to flow more easily into the fractures.[34] Companies keep

30. Deborah A. Rosen, American Indians and State Law: Sovereignty, Race, and Citizenship, 1790–1880 7 (2007); Dina Gilio-Whitaker, *The Story We've Been Told About America's National Parks is Incomplete*, Time (April 2, 2019), https://time.com/5562258/indigenous-environmental-justice [https://perma.cc/59PK-54VN].

31. QuickFacts, McKinley County, New Mexico, https://www.census.gov/quickfacts/mckinleycountynewmexico (last visited April 28, 2020*)* [https://perma.cc/XV8Y-B89A].

32. QuickFacts, San Juan County, New Mexico, https://www.census.gov/quickfacts/fact/table/sanjuancountynewmexico,NM/PST045219 (last visited April 28, 2020) [https://perma.cc/U24J-JVYA].

33. Marc Lallanilla, *Facts About Fracking*, Live Sci. (Feb. 10, 2018), https://www.livescience.com/34464-what-is-fracking.html [https://perma.cc/Y9W4-YVUB].

34. Dangerous Fracking Chemicals, http://frackinginjurylaw.com/dangerous-fracking-chemicals (last visited April 28, 2020) [https://perma.cc/manage/create?-folder=25472-103803].

their fracking fluid recipes secret, making it difficult to trace contamination or link it to a particular company.[35] Also included in the fracking fluid are sand and ceramic particles called 'proppants.' The proppants prop open fractures, further enabling the oil and gas to flow freely through the fissures.[36] Once fractures are made and propped into place, the oil or gas and "flowback" fluid is pumped out.[37] The seldom treated and high-salinity flowback fluid contains toxins, such as radon, methane, and heavy metals. It is either stored on site in pits, pumped into underground wells, or disposed of offsite.[38] The development of horizontal drilling allows several boreholes to be drilled off a single well, maximizing the amount of oil and gas that can be recovered.[39]

A. *United States Fracking Boom*

Within the last decade, the United States has massively expanded oil and gas production, largely due to the increased utilization of fracking technology.[40] Roughly 13,000 new fracking wells are drilled each year in the United States, and the country has gone from importing a majority of its oil to becoming the world's leading producer.[41] The motivations behind this boom were to cut oil and gas costs and increase U.S. energy independence and security. The pitch for fracking was that it "transformed the production of gas from a hit-or-miss proposition to one that operated with an on and off switch."[42] The Trump administration expressed this rationale for expanding fracking in the United States:

> We've got underneath us more oil than anybody, and nobody knew it until five years ago . . . and I want to use it. And I don't want that taken away by the Paris Accord. I don't want them to say all of that wealth that the United States has under its feet, but that China doesn't have and that other countries don't have, we can't use.[43]

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35. Lallanilla, *supra* note 33.

36. *Id.*

37. *Id.*

38. *Id.*; The Process of Unconventional Natural Gas Production, https://www.epa.gov/uog/process-unconventional-natural-gas-production (last visited April 28, 2020) [https://perma.cc/424Q-YBDF].

39. Adam Vaughan, *Fracking- The Reality, the Risks and What the Future Holds*, The Guardian (Feb. 26, 2018), https://www.theguardian.com/news/2018/feb/26/fracking-the-reality-the-risks-and-what-the-future-holds [https://perma.cc/8ADX-NCN2].

40. Bethany McLean, *How America's 'Most Reckless' Billionaire Created the Fracking Boom*, The Guardian (Aug. 30, 2018), https://www.theguardian.com/news/2018/aug/30/how-the-us-fracking-boom-almost-fell-apart [https://perma.cc/972A-B6H5].

41. *Id.*; *The World's Top Oil Producers of 2019*, Investopedia (April 22, 2020), https://www.investopedia.com/investing/worlds-top-oil-producers [https://perma.cc/X8VL-DFZY]; N. Sönnichsen, *Leading Natural Gas Producing Countries Worldwide 2014–2017*, Statista (April 2, 2020), https://www.statista.com/statistics/264771/top-countries-based-on-natural-gas-production [https://perma.cc/SA8D-7RPR].

42. McLean, *supra* note 40.

43. *Id.*

This nationalistic rationale was quickly adopted by rural communities desperate for profit and employment opportunities. The Environmental Protection Agency (EPA) included fracking as a key component of its clean energy plans.[44] Working against the coal industry and alongside powerful oil and gas industries,[45] the U.S. government effectively "greenwashed"[46] fracking in order to kick-start the boom. While fracking does produce less carbon emissions than coal, the EPA failed to fully disclose the risks and harms that come from fracking, especially the risks posed to vulnerable communities living nearby like the Pueblo and Diné people of New Mexico.

B. *(Under) Regulation*

While Chaco landscape is checkerboarded with both tribal, federal, and state ownership, the key fracking activity stems from federal leasing.[47] Thus, the focus of this Comment is on regulation, or rather under-regulation, at the federal level. Although numerous state and federal regulations affect the way fracking occurs on the Chaco landscape, the statutes and their corresponding regulations that this Subpart will focus on are the National Environmental Policy Act (NEPA), the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

1. National Environmental Protection Act

The Bureau of Land Management (BLM) conducts oil and gas leasing under the NEPA. In order to lease and develop oil and gas deposit areas, the BLM first prepares a Resource Management Plan/Environmental Impact Statement (RMP/EIS) as required by both the NEPA and the National Historic Preservation Act (NHPA).[48] Then, the BLM sells and executes oil and gas

44. Fracking is included in both the Clean Power Plan (CPP) and the Affordable Energy Rule, which backtracks on the CPP. EPA, Fact Sheet Regulatory Impact Analysis for the Affordable Clean Energy Rule (ACE) and Clean Power Plan Repeal, https://www.epa.gov/sites/production/files/2019-06/documents/ace_ria_fact_sheet_6.18.19_final.pdf (last visited April 28, 2020) [https://perma.cc/P34D-2LLN]; Food & Water Watch, Incentivizing Fracking: "The EPA's Clean Power Plan" (2014), https://www.foodandwaterwatch.org/sites/default/files/incentivizing_fracking_ib_aug_2014.pdf [https://perma.cc/D34Y-YURR]; Office of Air & Radiation, Affordable Clean Energy Rule (ACE) (July 2019), https://www.epa.gov/sites/production/files/2019-07/documents/ace_overview_presentation_july2019.pdf [https://perma.cc/HP3G-S7LV].

45. McLean, *supra* note 40.

46. Greenwashing is defined as disseminating disinformation by an organization to present an environmentally responsible public image. Greenwash, Oxford Dictionary (2020), https://www.lexico.com/en/definition/greenwash [https://perma.cc/X9NL-7ZP8].

47. The state of New Mexico has already issued a moratorium on fracking in the Chaco landscape. Kate Kiely, *Greater Chaco Wins Reprieve From Fracking*, NRDC (May 7, 2019), https://www.nrdc.org/media/2019/190508-0 [https://perma.cc/2EKW-UHMJ].

48. Diné Citizens Against Ruining Our Env't v. Jewell, 312 F. Supp. 3d. 1031, 1048

leases.[49] Finally, the lessee submits an application permit to drill (APD) to the BLM, and the BLM approves or denies the application.[50]

While preparing EISs for the Chaco landscape, the BLM routinely fails to analyze the cumulative impacts of hundreds of wells in a single area.[51] The act of environmental agencies approving smaller projects, such as APDs, under a broader NEPA document, such as the RMP/EIS, is called tiering.[52] Tiering is meant to improve efficiency of federal projects by allowing agencies to adopt the impact analysis of a broader NEPA document for individual components of a project, such as a single well within a large development area. But when agencies segment a large project into many smaller actions in order to minimize and conceal the perceived overall environmental impact, it is called "piecemealing."[53] Thus, agencies are required by internal policy to analyze the impacts of smaller actions together as connected, similar, and/or cumulative impacts.[54] Communities and environmentalists have accused the BLM of piecemealing fracking operations in the Chaco landscape, causing inadequate analysis of the health, safety, and cultural effects. The increased concentration of wells near sensitive cultural sites and the emergence of new fracking methods since the original 2003 EIS caused particular concern that the BLM was concealing and avoiding analysis of the cultural and health impacts on indigenous peoples.

Fracking in general enjoys exemptions and streamlined approval processes from government entities. Fracking can often qualify as a categorical exclusion, meaning no EIS is required.[55] Because the NEPA is primarily an information tool, it would not require the BLM to avoid or mitigate any impacts even if the BLM took the time to understand the complex cultural role of the Chaco landscape.[56] Enhanced by the reality that it can be difficult to

(D.N.M. 2018) [hereinafter *Dine CARE I*].

49. *Id.*

50. *Id.*

51. Kiely, *supra* note 47.

52. 43 C.F.R. § 46.140 (2020).

53. Alexander Hood, *The Same NEPA Proposal or Connected NEPA Actions?: Why the Bureau of Land Management's New Oil Shale Rules and Regulations Should be Set Aside*, 37 B.C. College Env't Aff. L. Rev. 191, 206 (2010).

54. *Id.*

55. Bureau of Land Mgmt., NEPA Efficiencies for Oil and Gas Development (June 6, 2018), https://www.blm.gov/policy/ib-2018-061 [https://perma.cc/GZ7R-YQ58]; Eric Lipton & Hiroko Tabuchi, *Driven by Trump Policy Changes Fracking Booms on Public Lands*, N.Y. Times (Oct. 27, 2018), https://www.nytimes.com/2018/10/27/climate/trump-fracking-drilling-oil-gas.html?login=email&auth=login-email&login=smartlock&auth=-login-smartlock [https://perma.cc/EV3V-NXBM].

56. *See* Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837, 843–44 (1984) (holding considerable weight should be accorded to agency interpretations of statutes); F.C.C. v. Fox Television Stations, Inc., 556 U.S. 502, 513–14 (2009) (holding that courts may not substitute judgement for that of an agency's decision and agency decisions of less than ideal clarity should be upheld if agency's path may be reasonably discerned).

corroborate the harms of fracking to water and health, the NEPA fails to protect communities from fracking contamination.

Regulatory capture and the politics of the current presidential administration, in addition to the general apathy and cultural misunderstanding in NEPA review, increase and encourage domestic fossil fuel production. Although this is not unique to presidential administrations throughout history, the Trump administration consistently advocates for energy independence and security through relatively cheap production of fossil fuels in the United States.[57] As an executive agency, the BLM is encouraged to increase U.S. energy independence and security by leasing fracking wells wherever it can.

2. Clean Water Act and Safe Drinking Water Act

Fracking enjoys two major exemptions from the CWA and the SDWA. The Clean Water Act's National Pollutant Discharge Elimination System (NPDES) permitting program covers the discharge of wastewater into navigable waters.[58] NPDES permits are rarely needed in fracking operations because flowback fluid is usually disposed into groundwater,[59] not navigable surface waters.[60] Additionally, the CWA requires permits for stormwater runoff;[61] however, fracking companies are exempt from this requirement except in narrow circumstances that are separate from the actual fracking operation.[62]

Fracking is also exempt from the SDWA, unless diesel is used in the fracking process.[63] Under the SDWA, the EPA regulates well injections to prevent drinking water contamination through the Underground Injection Control (UIC) permit program.[64] Fracking companies are exempt from the UIC permit

57. Marianne Lavelle, *Donald Trump Climate Profile: This President is All About Fossil Fuels*, KQED (Feb. 18, 2020), https://www.kqed.org/science/1957088/donald-trump-climate-profile-this-president-is-all-about-fossil-fuels [https://perma.cc/E2AA-7VD7].

58. EPA, Stormwater Discharges From Oil and Natural Gas Operations or Transmission Facilities, Unconventional Oil and Natural Gas Development, https://www.epa.gov/uog#stormwater (last visited April 28, 2020) [https://perma.cc/QXU7-V5DL].

59. EPA, Underground Injection Control (UIC) of Waste Disposal Fluids From Oil and Natural Gas Wells (Class II wells), Unconventional Oil and Natural Gas Development, https://www.epa.gov/uog#uic (last visited April 28, 2020) [https://perma.cc/8A8Q-YRSM].

60. The Supreme Court in *County of Maui v. Hawaii Wildlife Fund* recently held that if the discharge ends up in surface waters via groundwater then NPDES permits are required. 2020 WL 1941966, at *9 (S. Ct. 2020).

61. EPA, *supra* note 59.

62. EPA, Oil and Gas Stormwater Permitting, National Pollutant Discharge Elimination System (NPDES), https://www.epa.gov/npdes/oil-and-gas-stormwater-permitting#undefined (last visited April 28, 2020) [https://perma.cc/F3EJ-ZEXH].

63. EPA, Diesel Fuels Hydraulic Fracturing, Class II Oil and Gas Related Injection Wells, https://www.epa.gov/uic/class-ii-oil-and-gas-related-injection-wells#dfhf (last visited April 28, 2020) [https://perma.cc/LV32-Z5EK].

64. EPA, Underground Injection Control Well Classes, Underground Injection Control (UIC), https://www.epa.gov/uic/underground-injection-control-well-classes (last visited April 28, 2020) [https://perma.cc/762M-K45S].

program, meaning they are not subject to well inspections or testing of water quality and are not required to disclose which chemicals are contained in waste disposal of fracking flowback, unless diesel is used in production.[65] This exemption is referred to as the Halliburton loophole, as it is believed to have resulted from Vice President Dick Cheney's Energy Task Force efforts. Cheney was the previous CEO of Haliburton, a multinational oil manufacturing corporation and top manufacturer of fracking fluids, and Haliburton staff reviewed EPA reports on fracking prior to the exemption being made.[66] The exemption saves companies like Haliburton from costly regulatory requirements like testing, inspections, and clean up.[67] In 2014, only about 2 percent of oil and gas operations used diesel in injections. Therefore, even if successful[68] regulation occurs, the SDWA does little to prevent fracking contaminating drinking water, especially as technology continues to change.[69]

3. The Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act

The RCRA gives the EPA regulatory authority over the generation, transportation, treatment, storage, and disposal of hazardous waste.[70] The CERCLA gives the EPA regulatory authority over abandoned hazardous waste sites and establishes the liability of persons responsible for releases of hazardous waste at these sites.[71] Any oil and gas waste is exempt from testing,

65. NRDC, Fracking (Feb. 2013), https://www.nrdc.org/sites/default/files/policy-basics-fracking-FS.pdf; *What is the Halliburton Loophole?*, Gasland, http://www.gaslandthemovie.com/whats-fracking/faq/what-is-the-halliburton-loophole (last visited April 28, 2020) [https://perma.cc/57M5-M4SQ].

66. *The Halliburton Loophole*, Earthworks, https://earthworks.org/issues/inadequate_regulation_of_hydraulic_fracturing (last visited April 28, 2020) [https://perma.cc/5UPN-Y6XG].

67. McLean, *supra* note 40.

68. Companies have reportedly used diesel illegally in fracking operations without proper UIC permits. Naveena Sadasivam, *Oil and Gas Companies Are Illegally Using Diesel Fuel in Hundreds of Fracking Operations*, Pacific Standard (June 14, 2017) https://psmag.com/environment/oil-gas-companies-illegally-using-diesel-fuel-hundreds-fracking-operations-88595 [https://perma.cc/F3UZ-ASEM].

69. Jeff Spross, *The EPA Finally Moves To Oversee Diesel Use in Fracking Fluids*, ThinkProgress, (Feb. 12, 2014), https://thinkprogress.org/the-epa-finally-moves-to-oversee-diesel-fuel-use-in-fracking-fluids-11175242405d [https://perma.cc/L7D5-JBWZ]; Neela Banerjee, *Obama Administration Issues Guidelines on Using Diesel in Fracking*, L.A. Times (Feb. 11, 2014), https://www.latimes.com/nation/politics/politicsnow/la-pn-obama-administration-diesel-fracking-20140211-story.html#ixzz2t6vluHa4 [https://perma.cc/RW5L-XM77].

70. EPA, Resource Conservation and Recovery Act (RCRA) Overview, https://www.epa.gov/rcra/resource-conservation-and-recovery-act-rcra-overview (last visited April 28, 2020) [https://perma.cc/6MEU-DGHZ].

71. EPA, Superfund: CERCLA Overview, https://www.epa.gov/superfund/superfund-cercla-overview (last visited April 28, 2020) [https://perma.cc/A3UN-NZSN].

treatment, and disposal under RCRA and CERCLA, unless a party seeking liability under CERCLA can show there is hazardous waste involved, which can be difficult given that chemical disclosures are not required.[72]

Overall, NEPA, CWA, SDWA, RCRA, and CERCLA offer fairly weak protection to communities concerned with health risks and water contamination. This is largely due to the great amount of deference offered to the EPA and the BLM in analyzing the impacts of fracking. Another reason is the power of the oil and gas industry in lobbying for relaxed regulatory requirements, especially where those requirements would impose costly testing and monitoring, open companies up to potential liability, or provide more reasons for application denials under the current statutory schemes. As will be further illustrated throughout this Comment, Pueblo and Diné communities suffering from health, cultural, and socioeconomic harms are particularly frustrated by the ineffectiveness of these regulations and statutes.

C. *History of Fracking in Chaco Canyon*

The fracking boom hit New Mexico, and specifically the Chaco landscape, hard and fast. In 2018, New Mexico became the third largest oil producer in the United States.[73] Currently there are 23,000 active oil and gas wells in the Chaco landscape.[74] The BLM has jurisdiction over and manages many of the public lands and resources within the San Juan Basin.[75] Since fracking was first introduced in 1949, nearly every well in the San Juan Basin has been fracked.[76] This includes the area of Mancos Shale, an area surrounding the Chaco Culture Historical Park by as close as ten miles, which already contains hundreds of existing wells.[77] It is within the small, vulnerable Mancos Shale area where the BLM approved controversial drilling permits that have incited fierce debate and opposition from Pueblo and Diné people.[78]

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72. NRDC, Fracking (Feb. 2013), https://www.nrdc.org/sites/default/files/policy-basics-fracking-FS.pdf [https://perma.cc/3MV2-P2W8]; EPA, Management of Oil and Gas Exploration and Production Waste, https://www.epa.gov/hw/management-oil-and-gas-exploration-and-production-waste (last visited April 28, 2020) [https://perma.cc/9C-GJ-WDAS]; Jeremy Marcus et al., *Can the EPA Regulate Oil and Gas Under RCRA?*, OurEnergyPolicy (July 8, 2013), https://www.ourenergypolicy.org/can-the-epa-regulate-oil-and-gas-under-rcra [https://perma.cc/E2Z9-JZP2].

73. State of New Mexico & Environmental Protection Agency, Oil and Natural Gas Produced Water Governance in the State of New Mexico-Draft White Paper 2 (Nov. 9, 2018).

74. Tim Vanderpool, *A Fracking Boom Ransacks the Four Corners*, NRDC (March 20, 2019), https://www.nrdc.org/stories/fracking-boom-ransacks-four-corners [https://perma.cc/7U3V-Q9ZR].

75. Diné Citizens Against Ruining Our Env't v. Bernhardt, 923 F. 3d. 831 (10th Cir. 2019) [hereinafter *Diné CARE II*].

76. *Diné CARE I*, 312 F. Supp. 3d at 1049.

77. *Id.*

78. *Id.*

In 2014, the BLM prepared an amendment to its 2003 RMP/EIS to allow for more horizontal and multistage fracking in the Mancos Shale. The 2014 amendment encompasses a four million acre planning area.[79] While preparing an RMP or an amendment, the BLM must analyze inventory data and other information to identify issues and opportunities.[80] Despite the fact that numerous new cultural site complexes have been identified since the 2003 RMP/EIS, oil and gas leasing continued without completion of the amendment or new findings of impact on these sites.[81] According to the BLM and the oil and gas lessees, fracking could continue without new analysis of these sites or the completion of the 2014 amendment because the 2003 RMP/EIS completed the requisite analysis and individual permit approvals properly followed BLM protocols.[82] In other words, the BLM was tiering the permits approvals to the 2003 RMP/EIS.

Litigation on the proposed Chaco leases began in early 2015 when a community organization, Diné Citizens Against Ruining Our Environment (Diné CARE), along with environmental organizations, such as San Juan Citizens Alliance, WildEarth Guardians, and Natural Resources Defense Council, sued the BLM and the Secretary of the Interior.[83] The plaintiffs challenged the BLM's approval of over 300 application permits to drill (APDs) in the San Juan Basin under the now complete 2014 amendment.[84] While the District Court of New Mexico initially denied the plaintiff's motion for a preliminary injunction, the case went forward on the merits in *Diné CARE I*.[85] The plaintiffs alleged that the BLM violated NEPA and moved for a permanent injunction to stop drilling, but the District Court denied the motion.[86] The court found that the BLM was allowed to rely on site-specific EAs (environmental analyses) for wells rather than a new EIS because the BLM analyzed the impacts of horizontally drilled and fracked wells at the EA level and found no significant difference in environmental impacts between the new technology and technology analyzed under the 2003 RMP/EIS.[87] The court reasoned that even though more drilling is occurring in the Mancos Shale than the 2003 RMP/EIS anticipated, because only 3,860 of the anticipated 9,942 wells in the planning area were drilled, there was no need for a new EIS and the 2014 amendment was sufficient.[88]

79. U.S. Department of Interior, Bureau of Land Management, Farmington Field Office, Assessment of The Management Situation, 1 (2015) [hereinafter 2015 AMS].

80. *Id.*

81. *Id.* at 1–6.

82. Federal Appellees Final Response Brief at 20, *Diné CARE II*, 923 F. 3d 831.

83. Oil and gas trade association American Petroleum Institute and several oil and gas companies also intervened as defendants in all the cases mentioned in this Comment. Diné Citizens Against Ruining Our Env't v. Jewell, No. CIV 15-0209 JB/SCY, 2015 WL 4997207, at *1 (D.N.M. 2015).

84. *Id.* at *15.

85. *Diné CARE I*, *supra* note 48.

86. *Id.*

87. *Id.* at 1091.

88. *Id.* at 1093.

On appeal, the Tenth Circuit Court affirmed and reversed in part, remanding to the District Court to vacate five APDs.[89] In its summary of facts, the court stated that while the plaintiffs challenged over 300 APDs, the record only contained a full BLM NEPA analysis for five APDs (six wells).[90] Thus, the court reviewed only five APDs (nine wells total) out of the 300 challenged APDs.[91] The Tenth Circuit concluded that the BLM violated NEPA because the 2003 EIS did not fully analyze the environmental impacts associated with horizontal Mancos Shale wells.[92] Thus, the BLM was not authorized to tier the EAs for the individual APDs to the 2003 EIS.[93] Specifically, the BLM did not properly consider the cumulative impacts of water use for the 3,960 horizontal Mancos Shale wells in the 2003 EIS for each APD's individual environmental assessment.[94]

In this latest appellate ruling, the court specified that its decision forecloses activities with direct, indirect, or cumulative environmental impacts that have not been considered in either individual EAs for APDs or the original EIS to which the EA tiers.[95] Notably, this resulted in a very narrow victory for the plaintiffs. While the ruling has the potential to slow the BLM's approval of individual permits to drill in specific areas, as long as the BLM follows the appropriate analysis as laid out by the Tenth Circuit, the ruling does not permanently prevent continued development within the Chaco landscape.

In February 2020, the BLM and the Bureau of Indian Affairs (BIA) released another draft RMP/EIS amendment to the original 2003 RMP/EIS in order to examine the rapidly changing technology of fracking and the potential for even more fracking leases in the Mancos Shale.[96] The 2020 amendment draft provides five alternative forms of management regarding the four million acre planning area, including a no action alternative.[97] The BLM and BIA identified their preferred alternative as "balanc[ing] community needs and development, while enhancing land health" and "allow[ing] development to occur in harmony with traditional, historic, socioeconomic, and cultural lifeways of the planning area."[98] This alternative allows for more development

89. This had the effect of stopping drilling operations until new EAs are completed for the five APDs. *Diné CARE II*, *supra* note 75, at 859.

90. *Id.*

91. *Id.* at 844–45.

92. *Id.* at 850.

93. *Id.*

94. *Id.* The court stated that the 2003 EIS contemplated a total water use of 2.8 billion gallons, but taking the 3,960 Mancos Shale wells into account increases the contemplated water use by 82 percent. *Id.* at 856.

95. *Id.* at 856–59.

96. Bureau of Land Mgmt., Bureau of Indian Aff., Farmington Mancos-Gallup Draft Resource Management Plan Amendment and Environmental Impact Statement ES-I (Feb. 2020).

97. *Id.* at ES-3.

98. *Id.*

to occur, but is neither the least nor the most protective alternative offered in terms of water resources or public health and safety.[99]

The tribal response to the amendment has been largely critical. The All Pueblo Council of Governors (APCG), which is comprised of leadership from 20 federally recognized Pueblos, has expressed their disappointment in the plan, stating "the RMPA could open the door to new oil and gas leasing on federal land in this culturally critical area surrounding the Park."[100] In the midst of the COVID-19 pandemic, both Pueblos and the Navajo Nation have criticized the Bureau of Land Management for the way tribal consultation has, or has not, been handled.[101] Specifically, because public comment and tribal consultation on Chaco landscape oil and gas lease sales has moved online, many tribes are unable to participate in these meetings.[102] Pueblos and the Navajo Nation have cited low rates of broadband access on reservations, as well as community health and safety, as key reasons why virtual consultation and public comment periods are unacceptable alternatives for tribes.[103] Despite calls to pause the leasing process until tribes recover from the devastating effects of the pandemic, the BLM has decided to move forward with online meetings.[104] Once comments are collected on the draft in September, the final amendment will be issued and development will proceed.

III. Fracking Impacts in Pueblo and Diné Communities

For New Mexican indigenous communities, the fracking impacts on health, water, culture, and wellbeing are interconnected. It can be difficult to discern where one impact starts and another ends, so the analysis of these impacts is neither simple nor straightforward. Nonetheless, examining each of these impacts individually provides a much-needed comprehensive

99. *Id.* at ES-4, ES-6, 2–6.

100. All Pueblo Council of Governors All Pueblo Council of Governors Response to BLM's Preferred Plan for Greater Chaco, (March 3, 2020), https://www.apcg.org/uncategorized/all-pueblo-council-of-governors-response-to-blms-preferred-plan-for-greater-chaco [https://perma.cc/7U3V-Q9ZR].

101. Anna V. Smith, *Tribal Leaders Oppose Online Consultation with the U.S. During the Pandemic*, High Country News (May 27, 2020), https://www.hcn.org/articles/covid19-indigenous-affairs-tribal-leaders-oppose-online-consultations-with-the-us-during-the-pandemic [https://perma.cc/GV4K-85M9]; Kendra Chamberlain, *BLM Will Move Forward on Greater Chaco Drilling Proposal While Communities Grapple with COVID-19 Surge*, The N.M. Pol. Rep., (May 2, 2020), https://nmpoliticalreport.com/2020/05/02/blm-will-move-forward-on-greater-chaco-drilling-proposal-while-communities-grapple-with-covid-19-surge [https://perma.cc/UWG3-UUUA]; Arlyssa Becenti, *Feds Proceed with Chaco Drilling Plan While Tribes Distracted by Pandemic*, Navajo Times (June 4, 2020), https://navajotimes.com/coronavirus-updates/feds-proceed-with-chaco-drilling-plan-while-tribes-distracted-by-pandemic [https://perma.cc/4CQ3-CS6Z].

102. *Id.*

103. *Id.*

104. *Id.*

understanding of how the lives of Pueblo and Diné people have been, and continue to be, affected by fracking in the Chaco landscape.

A. *Health and Water Impacts*

Unfortunately, very little is known about the precise health impacts of fracking. There is little data or human testing available, though a number of studies suggest there are negative health consequences for communities located near fracking operations.[105] This Comment focuses on water because it is an essential component of any ecosystem and community. Water contaminated by fracking can have detrimental health effects on Pueblo and Diné communities. Key water related risks from fracking include stress on surface and groundwater supplies due to withdrawal of large volumes of water and contamination of underground sources of drinking water and surface waters.[106] The EPA issued its own report in 2016, which concluded that fracking impacts drinking water resources under some circumstances. The report cites data gaps as the reason the severity of those impacts cannot be assessed.[107]

Of course, many have pointed out that fracking has disproportionate health and water impacts on Pueblo and Diné communities, who are located closest to the fracking wells and often lack access to safe drinking water. According to the National Institutes of Health, thirteen percent of Native American homes lack safe water, compared to the national average of less than one percent.[108] Indigenous peoples also tend to have worse health than the average person,[109] making lack of water or exposure to unsafe drinking water a major risk. Indigenous people use water for ceremonial, livestock, and agricultural purposes. Thus, indigenous peoples' unique relationship to the land causes them to interact with water in ways that other groups do not.

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105. Ruth McDermott-Levy et al., *Fracking, the Environment, and Health*, 113 Am. J. of Nursing 45, 46–48 (June 2013); Nicholas Apergis et al., *Fracking and Infant Mortality: Fresh Evidence From Oklahoma*, 26 Env't Sci. Pollution Res. 32360, 32366 (October 11, 2019).

106. Providing Regulatory Clarity and Protections Against Known Risks, Unconventional Oil and Natural Gas Development, https://www.epa.gov/uog#providing [https://perma.cc/8A8Q-YRSM] (last visited April 28, 2020).

107. *Hydraulic Fracturing for Oil and Gas: Impacts From the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States (Final Report)*, EPA's Study of Hydraulic Fracturing and Its Potential Impact on Drinking Water Resources, https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=332990 [https://perma.cc/Q89D-XN9D] (last visited April 28, 2020).

108. *2009: Many Reservation Homes Lack Clean Drinking Water*, U.S. Nat'l Libr. of Med., https://www.nlm.nih.gov/nativevoices/timeline/616.html (last visited April 28, 2020) [https://perma.cc/EMQ8-XY5D].

109. *Disparities*, Indian Health Services, https://www.ihs.gov/newsroom/factsheets/disparities (last visited April 28, 2020) [https://perma.cc/EMQ8-XY5D]; U.S. Department of Health and Human Services, *Table P-1a. Age-Adjusted Percent Distribution (with Standard Errors) of Respondent-Assessed Health Status, by Selected Characteristics: United States, 2018*, Nat'l H. Interview Survey (2018).

The potential for toxic flowback fluid contaminating water supplies in Pueblo and Diné communities is high. It can be spilled during transportation via pipeline or truck, leak or emit pollution when stored in open pits, and contaminate underground water sources when injected for disposal.[110] Often times, when there is a spill on or near Diné land the landowners are not informed of the spill right away if at all. Additionally, operations cannot control where fractures will spread, so natural fault lines and other wells are at risk of unintentional and unexpected contamination of drinking water.[111] This uncertain nature of fractures makes it difficult to trace contamination to a particular operation or company.[112] The EPA itself is unsure how close wells and fractures are to underground aquifers.[113] Even recycling fracking wastewater can be dangerous, as it generates concentrated waste known as TENORM (technologically enhanced naturally occurring radioactive material). It can be difficult to discern necessary treatment because companies do not disclose chemicals in fracking fluids.[114]

The ongoing drought in New Mexico has made water an even more valuable resource.[115] Fracking operations strain water in areas where freshwater supplies for drinking, irrigation, and ecosystems are scarce. Furthermore, freshwater supplies are becoming scarcer due to climate change and the amount of water for fracking continues to rise.[116] Even if fracking does not contaminate an area's drinking water, the water is usually disposed of deep underground and removed from the freshwater cycle, thus making it virtually inaccessible for drinking water.[117] For Diné communities living in rural areas with minimal access to running water, losing any amount of potable water can be devastating. Given this context, it is disturbing that BLM failed to analyze the impact of the proposed new wells in the Chaco landscape increasing water use by 82 percent in its 2014 amendment to the RMP/EIS.[118]

Grassroots organizations, Chapter Houses, and tribal leadership have been instrumental in fighting for the protection of Diné communities already affected by fracking water pollution.[119] Diné community members who have leased their land for oil and gas drilling say they were not made fully aware of the health and safety consequences of oil and gas leasing on their lands.[120]

110. Melissa Denchak, *Fracking 101*, NRDC, April 19, 2019.

111. *Id.*

112. *Id.*

113. *Id.*; Libr. of Med., *supra* note 108.

114. Denchak, *supra* note 110.

115. State of New Mexico & EPA, Oil and Natural Gas Produced Water Governance in the State of New Mexico-Draft White Paper 1–4 (Nov. 9, 2018).

116. Denchak, *supra* note 110.

117. *Id.*

118. *Diné CARE II*, *supra* note 75, at 856.

119. Denchak, *supra* note 110; Vanderpool, *supra* note 74.

120. Melorie Begay, *Fracking Boom Leads to Tension in Navajo Communities*, New Mexico In Depth, July 7, 2017, http://nmindepth.com/2017/07/07/fracking-boom-leads-to-tension-in-navajo-communities [https://perma.cc/VJ3W-HBZW].

Thus, the general theme surrounding health and water impacts for Pueblo and Diné people is one of fearful uncertainty.

B. *Cultural and Socioeconomic Impacts*

> [Traditional religion] was of paramount importance to [the Pueblos], since it was their way of communicating with their Creator and deities. This religion had served them well from time immemorial, giving a coherent structure to their life and providing the faith they needed to survive the vicissitudes of existence . . . For the Pueblos, the ideal was life in harmony with all creation.[121]

Cultural and socioeconomic impacts to indigenous communities are typically overlooked in project impact analysis. The NEPA and NHPA only require federal agencies to consider cultural and socioeconomic impacts, and even then, the analysis is narrow and often based on outdated and inaccurate sources. Federal agencies not only lack an understanding of indigenous communities and their cultures, but also have a history of deliberately undermining indigenous culture and especially indigenous land use. Storytelling[122] and intersectionality[123] is key to illuminating cultural and socioeconomic impacts of fracking on Pueblo and Diné communities. Non-indigenous peoples have a difficult time grasping the horrific impacts of development activities on indigenous communities. Specifically, the tools of environmental review have been ineffective at preventing cultural harm. Thus, the stories and voices of indigenous peoples must be utilized to understand this trauma.

Water is incredibly sacred to Southwestern tribes. Water is often used in ceremonies that tribes believe are necessary, not only for the survival of their own people, but the very survival of the Earth and all peoples. In addition to ceremonial uses, water is used for agricultural and livestock purposes, which are deeply tied to indigenous culture and identity. Pueblo religion and culture are seen as inextricable from daily life and reality: "Their religious beliefs formed their peaceful attitude, mental outlook and worldview. Their entire year was crowded with religious activities that helped maintain a peaceful attitude and balance in their lives ."[124] For example, crops like corn are centered in a number of Pueblo ceremonies and dances. Corn has sustained

121. Po'Pay Leader of the First American Revolution 14–15 (Joe S. Sando & Herman Agoyo eds., 2005).

122. A tenet of Tribal Critical Race Theory, an analytical lens for examining the lives and experiences of Native peoples, is that stories are not separate from theory and comprise real and legitimate sources of data and epistemology. Bryan McKinley Jones Brayboy, *Toward a Tribal Critical Race Theory in Education*, 37 The Urb. Rev. 425, 430 (2006).

123. Intersectionality theory calls for analysis of identity factors like race and gender to be considered together within a multidimensional framework as opposed to single factors on their own. Kimberle Crenshaw, *Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine*, *Feminist Theory and Antiracist Politics*, U. Chi. Legal F. 139 (1989).

124. Po'pay, *supra* note 121 at 16.

Pueblo populations since pre-colonization and is believed to be a gift from spiritual beings and representative of deities: "In the form of the perfect ear of corn, Naiya Iyatiku (Mother, Chief) is present at every ceremony. Without the presence of her power, no ceremony can produce the power it is designed to create or release."[125] For Diné people, sheepherding provides a source of food, clothing, and art: "The sheep are like our parents . . . They feed us and give us comfort from the cold."[126] Pueblo and Diné people understand the role of water in maintaining the ecosystems that sustain crops and livestock; thus, when they fight for water protection, they fight for their culture and wellbeing.

Both Pueblo and Diné peoples have existed in this area since time immemorial, and accordingly understand the value and scarcity of water. These nations understand that water is a resource that must be preserved for future generations. Many tribes treat water in its various forms, as well as the plants and animals it gives life to, as spiritual beings that support the wellbeing and survival of the community.[127] Thus, when fracking contaminates or depletes water, tribes are forced to choose between using contaminated or hard to come by water in vital ceremonies or letting their culture and lifeways erode.

The APCG has been consistently opposed to oil and gas development, specifically fracking, in the Chaco landscape based primarily on the harm to Pueblo culture and community.[128] According to the APCG, protection of traditional cultural properties and sacred sites are necessary for each Pueblo's preservation now and into the future.[129] Many of these traditional Pueblo cultural properties and sacred sites are located outside the Chaco Culture National Historical Park and thus face harm from fracking impacts.[130] These unprotected areas continue to be places of prayer, pilgrimage, and living connections to Pueblo ancestors,[131] plants, and animals whose health may also be harmed from this development.[132] In 2018, Navajo Nation President Russell Begaye and Vice President Jonathan Nez officially supported APCG's opposition to fracking in the Chaco landscape, noting their spiritual and historic connection to the area.[133] While the Navajo Nation leaders' opposition to fracking has been somewhat inconsistent over the years, both Pueblo and

125. Paula Gunn Allen, The Sacred Hoop Recovering the Feminine in American Indian Traditions 17 (1986).

126. Michael Benanav, '*The Sheep Are Like Our Parents*,' The N.Y. Times (July 27, 2012), https://www.nytimes.com/2012/07/29/travel/following-a-navajo-sheep-herder.html [https://perma.cc/NRS5-Z5DT].

127. Jennifer Marley, Settler Colonialism and the Politics of Pueblo Identity 15 (April 30, 2019).

128. All Pueblo Council of Governors, Resolution No. APCG 2015–17.

129. All Pueblo Council of Governors, Resolution No. APCG 2017–12.

130. All Pueblo Council of Governors, Resolution No. APCG 2015–17.

131. All Pueblo Council of Governors, Resolution No. APCG 2017–12.

132. All Pueblo Council of Governors, Resolution No. APGC 2016–17.

133. *Id.*

Diné peoples have consistently spoken out about the impacts of fracking on their culture.

In recent years, "water is life" has emerged as an indigenous concept within grassroots movements, and specifically those against the oil and gas industries. "Water is life" reflects indigenous views of people being a part of the landscape as opposed to separate from the land, creating a kinship-based responsibility to care for the land as a key part of the ecosystem, and working in harmony to sustain life for all beings. "Water is life" also reflects the importance of place in indigenous cultures and the understanding that water is a crucial component in any ecosystem. If water is contaminated or depleted, humans cannot safely farm, cultivate livestock, hunt and fish, or conduct ceremonies. And because a subsistence lifestyle and the caring for land, plants, and animals is a part of indigenous cultures, endangering the ability to do these things threatens the community's ability to maintain traditions and wellbeing. Through "water is life" movements, indigenous communities have expressed their fears and anger that resources necessary to sustain themselves are dwindling. The "water is life" movement has also encouraged indigenous communities to protect their remaining resources at all cost.[134]

Within cultural and socioeconomic impacts, indigenous elders and women are disproportionately impacted. Elders face higher risk because they are more likely to participate in cultural practices, live in rural areas, and practice traditional subsistence lifestyles that involve growing crops and raising livestock. Fracking puts the safety of indigenous women at risk, not only through the cultural and health harms that are discussed above, but also by exposing Pueblo and Diné women to greater threats of violence.

The production of oil and gas creates "man camps" to build wells and pipelines, where workers from outside communities live and work in areas near indigenous communities. These man camps have been reported to cause increases in sex trafficking, rape, and other forms of violence in these communities.[135] This increased threat of violence to indigenous women should be analyzed not just as harm to women, but also as harm to the land and community. Understanding this violence requires an intersectional analysis, as neither gender nor indigenous identity are centered alone; both must be considered together.

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134. Jennifer Weston, *Water is Life: The Rise of the Mní Wičóni Movement*, Cultural Survival Q. Mag. (March 2017), https://www.culturalsurvival.org/publications/cultural-survival-quarterly/water-life-rise-mni-wiconi-movement [https://perma.cc/RH3G-VXSE].

135. Nick Martin, *Violence from Extractive Industry 'Man Camps' Endangers Indigenous Women and Children*, University of Colo. Boulder: First Peoples Worldwide, (Jan. 29, 2020); Levi Rickert, *The Connection Between Pipelines and Sexual Violence*, The New Republic; UN Special Rapporteur: Oil, Gas & Mining Operations Bring Increased Sexual Violence, Native News Online (Jan. 21, 2014), https://nativenewsonline.net/currents/un-special-rapporteur-oil-gas-mining-operations-brings-increased-sexual-violence [https://perma.cc/3AU5-N9NA].

Indigenous women have always had an important cultural role in their communities as caretakers, medicine women, harvesters, and landowners. Violence against women impacts their ability to care for the land and their communities. Furthermore, harming women has historically been tied to land dispossession. During the Spanish colonial period in New Mexico, policing and distorting Pueblo identity provided the colonists access to land as well as the labor of Pueblo women.[136] Today, although tactical violence against indigenous women to gain access to Pueblo and Diné land is less overt, the connection between fracking and the harm to these women is still present:

> Because indigenous bodies stand in the way of access to land and because women are seen as the producers of Native nations through the European heteropatriarchal lens, violence against women, particularly sexual violence, is used as a means of separating Native people from the land.[137]

After fracking occurs, the land is restructured. It is no longer used for agriculture or livestock, but for purposes that primarily serve non-indigenous communities.[138] While this process of separation and distortion of indigenous identity is arguably not as deliberate as past colonial violence toward indigenous women, the effect of fracking on Pueblo and Diné land and women is the same.

Those in favor of fracking argue that it benefits the culture and socioeconomic status of communities and individuals through increased employment opportunities and a local economic boost. Based on these arguments, both the Navajo Nation government and the state of New Mexico strongly support the use of fracking under certain circumstances. Furthermore, the oil and gas industry funds New Mexico's public education in many instances, allowing New Mexico public universities to offer free tuition for in-state residents.[139] Free tuition for New Mexican residents has an incredibly positive effect on Pueblo and Diné youth and their communities. Because of these positive effects, fracking in New Mexico is a highly controversial issue. New Mexican lawmakers have generally supported protection of the Chaco Culture National Historical Park because it is a jewel of tourism and culture. They believe that the Park sufficiently protects the area's valuable culture, history, and archeology, so they allow fracking to continue just outside of the Park's boundaries. Thus, there is no indication of decreased reliance on the fossil fuel industry for revenue and profit.[140]

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136. Marley, *supra* note 127 at 6, 9.

137. *Id.* at 27–28.

138. *Id.* at 26–27.

139. Theo Wayt & Ben Kesslen, *Oil-Backed Blue Wave: New Mexico Progressive Policy Through Fracking*, NBC News (Oct. 27, 2019), https://www.nbcnews.com/news/us-news/oil-backed-blue-wave-new-mexico-funds-progressive-policy-through-n1072181 [https://perma.cc/7SGM-VG8S].

140. The EPA and New Mexico have entered into an MOU to engage in recycling of produced water from fracking. State of New Mexico & EPA, Oil and Natural Gas

Tribal advocates of fracking view it as a way to boost the economy and achieve energy independence. It is especially important and beneficial for Native people to have jobs on or near the reservation that allow them to stay close to their families and maintain cultural participation. The Navajo Nation government in particular has relied on the fossil fuel industry to develop their successful economy. Over 75 percent of the Navajo Nation government's budget comes from fossil fuel royalties.[141] Fracking has become increasingly attractive, even crucial, to the Navajo Nation, as its citizens and environmentalists push for a transition from coal[142] towards cleaner forms of reliable energy.

Fracking impacts Pueblo and Diné communities in a myriad of ways. These varying impacts interact and interconnect, creating new problems for Pueblo and Diné people and exacerbating existing conditions. Because water is such an important factor for health and indigenous cultures, Pueblo and Diné people feel particularly attacked by the fracking industry. The inconclusive nature of fracking impacts in the Chaco landscape creates a terrifying conundrum: no action is being taken by regulators and lawmakers, yet Pueblo and Diné communities continue to watch their landscape be chipped away and distorted, while violence associated with oil and gas development causes their relatives to disappear without a trace.

IV. Potential Recommendations

Fracking is a significant problem for indigenous communities and current laws and regulations are inadequate for providing necessary protections. Pueblo and Diné communities consistently feel that the federal government does not listen to their concerns or care about their health and wellbeing: "Because BLM continues to approve fracking permits without consideration to community impacts, we are forced to live in an industrialized frack site which feels like a war zone."[143]

While federal and state governments wield the power to stop fracking, they are not in a position to decide how Pueblo and Diné communities should move forward from the fracking that has already occurred. Rather, tribes and indigenous communities must reclaim the power to protect themselves and

Produced Water Governance in the State of New Mexico-Draft White Paper 2 (Nov. 9, 2018). This allows fracking to continue and even expand, while pushing the narrative that it is not environmentally harmful and conserving water resources that are used in fracking operations. *Id.*

141. *Monster Slayers: Can the Navajo Nation Kick the Coal Habit?*, Honor the Earth, http://www.honorearth.org/_monster_slayers_can_the_navajo_nation_kick_the_coal_habit (last visited April 28, 2020) [https://perma.cc/9755-N8U3].

142. Felicia Fonseca, *Coal Industry on Navajo Nation Could End with Plant Closure*, The Salt Lake Trib. (Jan. 24, 2020), https://www.sltrib.com/news/nation-world/2020/01/24/coal-industry-navajo [https://perma.cc/YE6K-F5ZD].

143. Jonathan Romero, *Environmental Concerns Realized at New Mexico Well-Site Fire*, The Durango Herald (July 28, 2016, 5:25 AM), https://durangoherald.com/articles/107688 [https://perma.cc/6798-2FH5].

determine the necessary remedies for fracking harms. The federal and state governments should not be the ultimate decision makers regarding the Chaco landscape's fate, not only because these governments have previously failed to protect Pueblo and Diné communities, but also because they have actively tried to destroy these communities in various ways. The solutions that the federal government has tried to provide to protect Native American culture have proved ineffective.[144]

The just solution to this issue is to have tribes and indigenous communities come together to create their own plans for land use and water protections. The following Subparts describe the rationale for tribal and indigenous created solutions and potential recommendations for tribes and indigenous communities to mitigate and prevent the consequences of fracking. This article strongly recommends that fracking be regulated from a tribal and indigenous perspective and ultimately be phased out by renewable energy sources in order to prevent environmental contamination and further threats to Pueblo and Diné health and safety.

A. *Dismantle United States Development and Control of Tribal Landscapes*

"Never again," they vowed. "Water is life. Mní Wičóni. This is all we have left—our river, and the lands you didn't take last time."[145]

Indigenous resistance to fracking in the Chaco landscape, oil and gas development in other areas of the country, and U.S. management of sacred land is a response to the history of U.S. colonization and white supremacy that permeates environmental and administrative law to this day. Court decisions like *Johnson v. McIntosh*,[146] *Lyng v. Northwest Indian Cemetery Protective Association*,[147] and the *Diné CARE* cases demonstrate that the ultimate rationale for land dispossession is colonization and white supremacy. The U.S. process of claiming title to lands, forcing tribes onto reservations, and then designating the surplus lands as public lands was a calculated act.[148] This history cannot be ignored when analyzing fracking in the Chaco landscape. Because the Chaco landscape was wrongly taken from Diné and Pueblo peoples, the federal government has a responsibility to restore Pueblo and Diné regulatory authority over the land and the resources they strive to protect. Allowing tribes and communities to manage the Chaco landscape, rather than the government that

144. Isaac Kantor, *Ethnic Cleansing and America's Creation of National Parks*, 28 Pub. Land & Res. L. Rev. 41, 58–60 (2007) (discussing failures of the American Indian Religious Freedom and Restoration Act and similar statutes).

145. Weston, *supra* note 134.

146. Johnson v. M'Intosh, 21 U.S. 543, 573, 590 (1823) (holding discovery and conquest gave the U.S. government title and right of acquiring soil from the Indians, "to leave them in possession of their country, was to leave the country a wilderness").

147. Lyng v. Northwest Indian Cemetery Protective Ass'n, 485 U.S. 439, 453 (1988) ("Whatever rights the Indians may have to use of the area, however, those rights do not divest the Government of its right to use what is, after all *its* land.").

148. Kantor, *supra* note 144 at 45.

took the land from them through federal policy, is the only equitable recourse for the continual harm to these communities.

Federal policy to exterminate indigenous peoples from their lands is rooted in white supremacy. The objective of colonization in the West was to secure land for white settlers and preserve privileges of the white race through restriction of access to resources for indigenous and other racialized peoples. Native peoples were seen as an obstacle to that objective and were racialized in the process of colonization to be perceived as backwards, primitive, and savage. This racialization justified violent conquest and colonization because indigenous peoples were viewed as expendable or even deserving of obliteration.[149]

Federal Indian law and its bedrock caselaw is sustained by "racist ideologies and practices that characterize Indigenous nations as uncivilized dependents" incapable of managing land on their own.[150] Although the Chaco landscape was not specifically targeted for white settlement, Pueblo and Diné people were pitted against each other to the benefit of white settlement. The Diné were racialized as savages in comparison to the "civilized" Pueblos, allowing them to be targeted for massacre and removal. Once the Diné were gone and the Pueblos' land claims were terminated, settlers were able to develop and excavate the Chaco landscape.

As a part of the Four Corners area, the Chaco landscape has also been designated as a sacrifice zone by various U.S. presidents, directly harming indigenous communities for the welfare of the United States.[151] In creating this sacrifice zone, the United States traded the health and safety of the "sparsely populated" area, without these communities' consent or knowledge, for economic gain and national security. The United States subjected the Four Corners area to uranium mining, atom bomb development, coal production, and widespread oil and gas drilling.[152] All of these activities have benefitted the United States' colonial project, particularly oil and gas companies whose workforces are 88 percent white.[153]

The areas within the Chaco landscape that economically benefit from fracking are mostly white or Hispanic.[154] In the scope of environmental and

149. Ingrid R.G. Waldron, There's Something in the Water: Environmental Racism in Indigenous and Black Communities 322 (Fazeela Jiwa ed. 2018).

150. *Id.* at 955.

151. John Horning, *Reader View: Crisis is Opportunity for Four Corners Region*, The Santa Fe New Mexican (May 6, 2017), https://www.santafenewmexican.com/opinion/my_view/reader-view-crisis-is-opportunity-for-four-corners-region/article_4565692d-38ab-52e3-a6a6-dbab360a22be.html [https://perma.cc/RXF3-J74H].

152. Christopher McLeod et al., *The Four Corners A National Sacrifice Area? Resource Guide*, The Workbook (1985) http://www.bullfrogfilms.com/guides/4cguideSM.pdf [https://perma.cc/HJD8-MFYY].

153. U.S. Bureau of Lab. Stat., Labor Force Statistics from the Current Population, https://www.bls.gov/cps/cpsaat18.htm (last visited April 28, 2020) [https://perma.cc/APT5-D8QZ].

154. Cuba, NM, Data USA, https://datausa.io/profile/geo/cuba-nm (last visited April

project planning, these white and Hispanic communities have a higher value than indigenous communities who live in the shadow of pollution and poverty. This disparity is not coincidental, as the institutions of federal land use and management were built to uphold policy actions "that protect and benefit white people economically, materially, socially, and psychologically, often at the expense of Indigenous, Black, and other racialized peoples' well-being."[155] Although there are other factors that contribute to this disparity between white and Native peoples in the Chaco landscape, the argument that fracking benefits all communities equally is not true for Native peoples.

The implementation of environmental and administrative law has led to the disregard and disrespect of indigenous perspectives of land use. Both areas of law implement cost-benefit analysis in deciding whether to approve fracking projects. Cost-benefit analysis is ill-equipped to consider the true value of cultural sites and practices and often discounts the cost of harming poor and working-class people.[156] Natural resource law and land management employs a multiple use mandate,[157] which pits incompatible uses like extractive industry and cultural uses against one another, under the false presumption that the two can exist simultaneously. Administrative law has given rise to doctrines of agency deference,[158] which were on full display in the *Diné CARE* cases as the court refused to disturb the BLM's analysis that new fracking technology posed no new threats to communities or the environment. The combination of environmental review and regulation results in the appraisal of lands through a settler colonial and capitalist lens. Under this lens, fracking operations hold significant value, whereas cultural resources are only prized for research and tourism.

Although some tribes are consulted under NHPA, tribes and indigenous communities cannot control what states and the federal government does with "*its*"[159] lands. Although settler colonialism has been critiqued for separating nature and humanity,[160] anticolonial models of honoring indigenous land and people are still under development. What would it mean to honor the indigenous view that humans and the natural world are not only one, but dependent

28, 2020) [https://perma.cc/UF6G-5V7D]; Bloomfield, NM, Data USA, https://datausa.io/profile/geo/bloomfield-nm (last visited April 28, 2020) [https://perma.cc/F7XZ-APEU]. Although Crownpoint, another nearby town, has higher population of Native Americans, its poverty rate is higher than both Cuba and Bloomfield. Crownpoint, NM, Data USA, https://datausa.io/profile/geo/crownpoint-nm [https://perma.cc/RQE6-5L4C].

155. Waldron, *supra* note 149 at 356.

156. *See generally* Steven Kelman, *Cost-Benefit Analysis An Ethical Critique*, AEI J. on Gov't & Soc'y 34 (1981).

157. *BLM's "Multiple Use Mandate"—What Does That Even Mean?*, Bureau of Land Mgmt., https://www.blm.gov/or/districts/burns/newsroom/files/multipleuse.pdf (last visited April 28, 2020) [https://perma.cc/K3EP-QEW2].

158. *See* Chevron and F.C.C. v. Fox Television Stations, 556 U.S. 502, 513–14 (2009).

159. Lyng v. Northwest Indian Cemetery Protective Ass'n, 485 U.S. 439, 453 (1988).

160. Kantor, *supra* note 144 at 42, 46.

on each other's reciprocity? What would it mean to acknowledge and learn from the Pueblo and Diné stories about life in the Chaco landscape?

B. *Transition From Fossil Fuels to Solar and Wind*

Because tribes like the Navajo Nation depend heavily on the energy industry, not just for the energy itself but for funding healthcare, education, and employment, an obvious solution would be to transition from fossil fuels to indigenous owned and operated clean energy businesses. While there is some support for both federal and state and temporary and permanent bans on fracking,[161] there must be an alternative replacement for the economic benefits fracking provides to the Diné people. Both opposers and supporters alike agree that a ban on fracking would cause a major disruption in the U.S. economy.[162] Yet, given the impending climate crisis and the prevalent story of contamination in the Chaco landscape, a transition away from fossil fuels is necessary. What will take the most consideration is how to make that transition "just"[163] and how soon it can occur.

There is currently a bill awaiting Senate approval that would provide a permanent buffer zone of ten miles around the Chaco Culture National Historical Park,[164] withdrawing federal lands within that buffer zone from possible oil and gas leasing. However, the Navajo Nation recently withdrew support from the bill.[165] The Navajo Nation officials have stated concerns over individual Diné allottees[166] who want to exercise their right to profit from oil and gas leases on their land, despite the fact that the bill would not affect the mineral rights of allottees or the ability to improve water and power.[167] The Navajo Nation Council instead approved language supporting a five-mile federal

161. Dan McKay, *Temporary Ban on Fracking Proposed*, The ABQ J. (Jan. 14, 2020), https://www.abqjournal.com/1409876/legislator-proposes-temporary-fracking-ban.html [https://perma.cc/U67M-EQ8A]; Nick Deiuliis, *Biden's Fracking Ban Will Derail Environmental and Economic Gains*, The Hill (April 10, 2020), https://thehill.com/opinion/energy-environment/491378-bidens-fracking-ban-will-derail-environmental-and-economic-gains [https://perma.cc/N9VE-Q983].

162. Ed Hirs, *The Arithmetic of Fracking*, Forbes (Feb. 21, 2020) https://www.forbes.com/sites/edhirs/2020/02/21/the-arithmetic-of-fracking/#158a06f561d4 [https://perma.cc/7RZF-ASKM].

163. Darren McCauley & Raphael Heffron, *Just Transition: Integrating Climate, Energy and Environmental Justice*, 119 Energy Pol'y 1 (2018).

164. Susan Montoya Bryan, *Groups: More Time Needed to Weigh New Mexico Drilling Plan*, AP News (Mar. 30, 2020) https://apnews.com/4ae54305a95825508c0e07904b4b4921?fbclid=IwAR2yAge4HqhBe6PkxKbODFTfEdq8Sw-hHMgZLDN-JbR9ZhORiroczfxfns8 [https://perma.cc/CKS8-KF4N].

165. The New Mexican, *Chaco Deserves Protection from Drilling*, Santa Fe New Mexican, (Mar. 2, 2020), https://www.santafenewmexican.com/opinion/editorials/chaco-deserves-protection-from-drilling/article [https://perma.cc/QP97-TX3J].

166. Alottees are individual Indian trustees of reservation land that is held in trust by the U.S. William C. Canby, Jr., American Indian Law in a Nutshell 22–25 (6th ed., 2015).

167. The New Mexican, *supra* note 165; Chaco Cultural Heritage Area Protection Act of 2019, H.R. 2181, 116th Cong. § 6(1) and (2) (2019).

buffer surrounding Chaco Culture National Historical Park that would provide additional protections to sacred cultural sites, while still allowing allottees to develop their mineral estates beyond the five-mile buffer area.[168] Given that a large number of Navajo Nation citizens rely on the energy industry for revenue and employment, it would be politically unwise for Navajo Nation officials to expressly oppose the industry.

The alternating levels of support and opposition to fracking from tribal communities such as the Navajo Nation, illustrate a common conflict inherent in fracking and fossil fuel use. Many Diné people feel like their own government has abandoned them for profits. Yet older generations feel loyalty to extractive industries because they have worked in these mines and oil fields for several years. Younger generations critique that loyalty as a product of colonization and capitalism. Reliance on a wage-based, extractive economy was adopted out of necessity due to Diné people being forced onto arid and isolated lands through federal removal and reservation policy. Additionally, Indian boarding schools implemented by the federal government had the objective of "killing the Indian to save the man."[169] Throughout the 19th century, these schools used physical abuse and humiliation to condition Pueblo and Diné youth to reject traditional practices and their Indian identity. This internalized racism was passed down from generation to generation, leading to an abandonment of indigenous culture, including an abandonment of indigenous values of land stewardship and reverence. Indigenous movements throughout the twentieth century and the indigenous youth today, fight to retain their identity and question the nature of extractive practices on indigenous land.

Depending on who you ask, it may be easier now than in the past to transition to solar and wind energy due to a drop in oil prices and the extreme debt facing fracking industries.[170] Since the fracking industry has proved to be less reliable than it was projected to be, there may be more support and demand for green projects in Indian country. There are currently two proposed renewable energy projects in the New Mexico area of the Navajo Nation.[171] Nationwide, renewable energy projects on federally recognized tribal land include "297 MW of solar, 67 MW of wind, 31 MW of biomass, 6 MW of geothermal and

168. Arlyssa Becenti, *RDC Wants Chaco Buffer Zone Reduced*, Navajo Times, (Dec. 5, 2019), https://navajotimes.com/rezpolitics/rdc-wants-chaco-buffer-zone-reduced [https://perma.cc/4CQ3-CS6Z].

169. Capt. Richard H. Pratt, Official Report of the Nineteenth Annual Conference of Charities and Correction (1892).

170. Rebecca Beitsch, *Oil Price Drop Threatens U.S. Fracking Boom*, The Hill (Mar. 27, 2020), https://thehill.com/policy/energy-environment/489754-oil-price-drop-threatens-us-fracking-boom [https://perma.cc/X7LN-Y3DY]; Tim McDonnel, *The Collapse of the U.S. Fracking Industry, in Seven Charts*, Quartz (April 3, 2020), https://qz.com/1830456/how-the-coronavirus-is-disrupting-the-us-fracking-industry [https://perma.cc/NAL4-WJ2V].

171. Tribal Energy Projects Database, https://www.energy.gov/indianenergy/maps/tribal-energy-projects-database (last visited May 6, 2020) [https://perma.cc/UW9A-PSG7].

0.5 MW of hydropower."[172] Tribal green energy projects are in need of federal and state funds, and tribes need to continue advocacy for clean and progressive energy policies. Based on the trauma caused by the fossil fuel industry and the need to mitigate climate change, there is a growing consensus that tribes must move forward towards a greener energy industry.

C. *Increase and Strengthen Tribal Regulation of Water*

Given the division amongst indigenous communities regarding a fracking ban, one potential bridge to safer Pueblo and Diné communities is increased opportunities for tribal water regulation, specifically tribal regulation of potential drinking water sources covered under the SDWA. Congress should amend the SDWA to create a streamlined process for tribes to assume regulatory jurisdiction over shared water resources, allowing tribes to set either additional water quality standards or entirely new water quality standards and permit requirements. Permit requirements should include regular testing of water sources and disclosure of chemicals and toxins in fracking fluid and fracking flowback prior to injection activity.

Currently, tribes can apply for treatment as state status under the CWA to set standards for water quality in surface water. Furthermore, the EPA can authorize primacy to qualified tribes for implementing programs that enforce national drinking water standards under the SWDA in their jurisdiction, but the only tribe that has qualified for primacy so far is the Navajo Nation.[173] Applying for treatment as state status is already difficult and costly for tribes. Qualifying for SDWA primacy and CWA jurisdiction for treatment as state status in non-reservation areas, such as the Chaco landscape, would be even more difficult if not impossible. An amendment clarifying or creating the ability for tribes to set their own standards and enforce them in federal areas or non-reservation areas, such as the Chaco landscape, would be extremely helpful in protecting Pueblo and Diné communities.

There is no substitute for tribes managing their own lands. Tribal water quality standards tend to be very high because they take into account the necessity of consuming and using water for ceremonial purposes.[174] Tribal regulation of shared water resources would mean more than simply consulting tribes, but rather allowing tribes and state and federal governments to work together to regulate for the protection of every affected community.

172. *Native American Tribes Pushing into Renewable Energy Development Across the U.S.*, Institute for Energy Economics and Financial Analysis (Aug. 29, 2019), https://ieefa.org/native-american-tribes-pushing-into-renewable-energy-development-across-the-u-s [https://perma.cc/VD2J-FBQJ].

173. EPA's Role in Safe Drinking Water on Tribal Lands, https://www.epa.gov/tribaldrinkingwater/epas-role-safe-drinking-water-tribal-lands#tab-2 (last visited May 6, 2020) [https://perma.cc/WQH7-F54P].

174. *See* City of Albuquerque v. Browner, 865 F. Supp. 733 (D.N.M. 1993) (holding water quality standards set by tribe under CWA for ceremonial uses would be upheld despite City of Albuquerque's claims standard was unobtainable).

D. *Tribal Cultural Sovereignty*

When generating solutions and recommendations that will truly benefit the communities who have suffered from fracking, it is instructive to compare the effectiveness of regulatory approaches, human rights approaches, and grassroots movements. Regulations have many downsides. Regulations can be violated, ignored, weakened, repealed, subject to inconsistent implementation by politically motivated agencies, and limited to certain jurisdictions. The growing power of executive authority and heightened deference to federal agencies has made it difficult for concerned communities to influence agency decisions regarding cultural protection and nuanced health impacts. Even targeted, collaborative, and thoughtful actions such as efforts to protect the Bear Ears sacred landscape in Utah can be undone by a single administration change.[175]

Human rights approaches to targeting environmental injustices also have downsides. Sweeping and aggressive human rights standards are largely unenforceable on governments who commit violations.[176] Like regulations, human rights are subject to inconsistent or nonexistent implementation. The best purpose that human rights can serve is to change the discourse around the treatment of indigenous peoples. Human rights can be especially helpful in recognizing indigenous perspectives and values that have long been ignored. Yet, in searching for immediate and reliable change, human rights alone do not provide substantial protection for indigenous communities.

Additionally, both regulations, and even to some extent human rights approaches, are situated within settler colonial and capitalist constructs. Settler colonialism features "profit seeking through land acquisition, resource extraction . . . denial of any responsibility for dispossession; and the repudiation of Indigenous governance structures."[177] Settler colonialism and its various forms are simultaneously capitalist, as they dispossess indigenous peoples of their land and resources to make a profit.[178] These two processes have created a toxic environment and led to the loss of culture for the people living in the Chaco region. Regulation of resources allowed these processes to move forward, and while human rights seek to challenge colonial and capitalist governments, they still uphold the legitimacy of those institutions and agencies, leaving intact the power structures that continue to perpetrate environmental racism.[179] Combatting environmental racism, which stems from both racial

175. Dina Gilio-Whitaker, As Long as the Grass Grows 153–54 (2019).

176. *See* Phil Henderson, *The Weakening of the UN Declaration on the Rights of Indigenous Peoples*, E-International Relations Students, (May 26, 2014), https://www.e-ir.info/2014/05/26/the-weakening-of-the-un-declaration-on-the-rights-of-indigenous-peoples [https://perma.cc/A6GT-X3VE].

177. Waldron, *supra* note 149 at 272.

178. *Id.* at 993, 1053.

179. *Id.* at 319.

capitalism and settler colonialism, requires approaches that directly transform and subvert these power structures.[180]

Tribal cultural sovereignty, education and training efforts, and continuous support for grassroots movements and community alliances will facilitate transformation and subversion of power structures in U.S. federal agencies like the EPA and the BLM. Tribal cultural sovereignty rejects tribal political sovereignty and the federal system that restricts tribal political sovereignty.[181] Exercise of political sovereignty for tribes is too limited to have an effect on environmental racism in the Chaco landscape, as tribal political sovereignty has always been subject to overriding federal authority.[182] Thus, cultural sovereignty is a doctrine that is created not by U.S. legal systems, but within tribes and indigenous communities themselves. The cultural sovereignty doctrine asks tribes to envision how the combination of full political autonomy, evocation of tradition as processes, and reclamation of history and cultural identity would form their own unique definition of sovereignty.[183] For Pueblo and Diné peoples, harnessing and seeking cultural sovereignty would undoubtably have a positive effect on the management of the Chaco landscape.

Exerting cultural sovereignty by Pueblo and Diné communities could lead to a repatriation[184] of Pueblo and Diné control over the Chaco landscape. Full political autonomy of the Pueblo and Navajo Nation governments would mean that the federal government would not be able to exert control over these tribes and there would be no deference to federal land use. An evocation of tradition as process would allow Pueblo and Diné peoples to continue to assert their relationship to the land and resources, free from negative health and safety risks. Tradition as process recognizes the importance of Pueblo and Diné people carrying out their traditions as well as the importance of dynamic change over time. Thus, the process of caring for community and the Earth as a whole is what is important, not necessarily the exact protocols, songs, dances, and ceremonies themselves. Nonetheless, practices that continue to sustain the lives of Pueblo and Diné people in the Chaco landscape include cultivating crops and livestock, harvesting plant medicines from the area, conducting ceremonies and pilgrimages at sacred sites, and much more.

Finally, a reclamation of Pueblo and Diné history and identity would recognize the Chaco landscape as a living landscape—one that has always been home to Pueblo and Diné communities (including plants, relatives, and

180. *See* The Red Deal Indigenous Action to Save Our Earth 13–16, http://therednation.org/wp-content/uploads/2020/04/Red-Deal_Part-III_Heal-Our-Planet.pdf (last visited May 6, 2020) [https://perma.cc/5MYU-3ZDB].

181. Wallace Coffey & Rebecca A. Tsosie, *Rethinking the Tribal Sovereignty Doctrine: Cultural Sovereignty and the Collective Future of Indian Nations*, 21 Stan. L. Pol'y Rev. 191, 192–94 (2001).

182. *Id.* at 193.

183. *Id.* at 196–202.

184. *Id.* at 202–10.

ancestors). It would involve telling stories of the land and people as a means of maintaining the relationship and balance of life in the Chaco landscape. Together, these cultural sovereignty components would allow Pueblo and Diné communities to manage the Chaco landscape from an indigenous perspective, providing for the safety and wellbeing of the land and peoples.

Education and training for federal agencies and environmental organizations would increase the efficacy of indigenous voices in decision making. In particular, it is important not only for policy makers and implementers to educate themselves on Pueblo and Diné cultures and build lasting connections with these communities, but also to educate themselves on the "systemic ways in which racist ideologies get written into environmental decision making and policy,"[185] namely how indigenous perspectives regarding land use and the value of resources are delegitimized and how the safety of indigenous bodies are disregarded in order to make oil and gas profits.

After Secretary of Interior David Bernhardt visited Chaco Canyon cultural sites in 2019 and saw firsthand the consequences of fracking,[186] he offered more support for fracking regulation and even implemented fracking bans.[187] If just one day of education can lead to major breakthroughs, a commitment to ongoing and in-depth trainings could generate significant progress in protecting cultural resources in the Chaco landscape. Additionally, agencies and policymakers should implement studies to understand the effects of environmental racism on the physical and mental health of Diné and Pueblo peoples. This data and information should be used to educate the public and inform land use decisions in the Chaco landscape.

Environmental justice movements in indigenous communities[188] play a crucial role in transforming power structures, precisely because these movements are explicitly and implicitly anti-authoritarian. These movements often, if not always, start with acts of civil disobedience, such as blocking the construc-

185. Waldron, *supra* note 149 at 2895.

186. Hannah Grover, *Interior Secretary David Bernhardt Visits Chaco Canyon Amid Oil, Gas Development Debate*, Farmington Daily Times (May 28, 2019), https://www.daily-times.com/story/news/local/2019/05/28/interior-secretary-david-bernhardt-visits-chaco-canyon-protection-act/1263177001 [https://perma.cc/7MPS-MNLB].

187. Hannah Grover, *David Bernhardt's Visit to Chaco Canyon Led to Oil, Gas Leases Being Deferred for 1 Year*, Farmington Daily Times (May 29, 2019), https://www.daily-times.com/story/news/local/2019/05/29/oil-gas-leases-near-chaco-canyon-deferred-after-david-bernhardt-visit/1272552001 [https://perma.cc/D4GS-U5WN].

188. Examples include movements at Standing Rock, Mauna Kea, and Wet'suwet'en territory. Nick Bowlin, *Mauna Kea Telescope Project Halted After Months of Protests*, High Country News (Jan. 28, 2020), https://www.hcn.org/issues/52.3/latest-mauna-kea-telescope-project-halted-after-months-of-protests [https://perma.cc/9XMZ-EXWF]; *see* Nick Estes, Our History Is the Future: Standing Rock Versus the Dakota Access Pipeline, and the Long Tradition of Indigenous Resistance (2019); Alleen Brown & Amber Bracken, *No Surrender: After Police Defend a Gas Pipeline Over Indigenous Land Rights, Protestors Shut Down Railways Across Canada*, The Intercept (Feb. 23, 2020), https://theintercept.com/2020/02/23/wetsuweten-protest-coastal-gaslink-pipeline [https://perma.cc/CV93-DYE8].

tion of pipelines or other structures on sacred lands. By protecting cultural sites and demanding that the greater American culture respect indigenous land use, these movements create pressure and effectuate practical bans on extraction activities and additionally assist in the transition to less destructive forms of energy production. These movements reclaim the land for indigenous use, which goes beyond halting fossil fuel extraction, and implement uses that benefit ecosystems.

For the Chaco landscape, this includes restoring the natural habitat that has been damaged by fracking, allowing flora and fauna to return, practicing traditional and sustainable agriculture, and allowing water systems to replenish. Unlike reformist approaches, these movements create real and immediate action that directly benefits indigenous communities.[189] As noted by certain environmentalists, the ultimate result of decolonization and the answer to the question of "return back to whose land/nature?" is returning land to tribes and indigenous communities.[190] When pushed through to the end, these movements ask for control or authority over lands to be repatriated to tribes. The land repatriation demands of indigenous grassroots movements thus identify these movements as part of the tribal cultural sovereignty doctrine: "Only when land is restored and returned can we begin to rebuild our economies and our nations with true sovereignty."[191]

Conclusion

> We are the land. More than remembered, the Earth is the mind of the people as we are the mind of the earth . . . it is not a means of survival . . . It is rather part of our being, dynamic, significant, real.[192]

Fracking has a long and complicated history for the U.S., tribes, and indigenous communities. While activists and scholars have brought attention to the potential harm to communities near fracking operations, indigenous communities are still attempting to grasp the numerous and unique ways that fracking causes harm to their people. Certain methods of correcting this harm, such as more comprehensive regulation, may be ineffective or entirely incapable of addressing the widespread damage fracking does to indigenous cultures. Thus, tribes and indigenous communities should continue to build power and fight for broad structural changes. It is important to acknowledge the political infeasibility of imposing bans on fracking and the extreme discretion that

189. The Red Deal Indigenous Action to Save Our Earth, *supra* note 180 at 15–16.

190. Waldron, *supra* note 149 at 2888.

191. The Red Deal Indigenous Action to Save Our Earth, *supra* note 180 at 30; *See also* Harmeet Kaur, *Indigenous People Across the U.S. Want Their Land Back—and the Movement is Gaining Momentum*, CNN (Nov. 26, 2020), https://www.cnn.com/2020/11/25/us/indigenous-people-reclaiming-their-lands-trnd/index.html?fbclid=IwAR0M74j4QFWnvcLfG_VpcVzjlKpoClAQgiTgxRCta-xIqQ0ryNtqXi9C65M [https://perma.cc/XV68-M5XC].

192. Paula Gunn Allen, *Iyani: It Goes This Way*, in The Remembered Earth 191 (Geary Hobson ed. 1979).

agencies have in implementing regulations, as such factors further highlight the importance of indigenous grassroots movements. These movements are representative of a greater, and historically ongoing resistance for a sustainable and just way of life.

Fracking has ravaged not just the Chaco landscape, which holds the ruins of the ancient Pueblo society, but the Pueblo and Diné communities of New Mexico who call the area home. These communities consider themselves to be a part of the landscape, not a separate component that can be removed at will. Fracking in any indigenous sacred landscape conjures two fundamental disagreements: 1) What is the value of resources like land and water? and 2) Who should control these resources? These disagreements are like a hidden illness or growing tumor, causing pain but never truly revealing themselves. Consequently, the two warring positions on each side of the fracking debate continually talk past each other without ever making a diagnosis. While these disagreements may never be amicably resolved, more light must be shed upon them in order to stop the dangerous impacts of fracking on Pueblo and Diné communities.