

Federal Acts and Fundamental Law: Working Towards Environmental Justice on the Navajo Nation

Abstract

Arguing for the importance of robust public participation and meaningful Tribal consultation to address the cumulative impacts of federal projects, this essay bridges interdisciplinary perspectives across law, public health, and Indigenous studies. We focus on openings within existing federal law to involve Tribes and publics more meaningfully in resource management planning, while recognizing the limits of this involvement when only the federal government dictates the terms of participation and analysis. The essay first discusses challenges and opportunities for addressing cumulative impacts and environmental justice through two U.S. federal statutes—the National Environmental Policy Act and the National Historic Preservation Act. Focusing on a major federal planning process involving fracking in the Greater Chaco region of northwestern New Mexico, we examine how the Department of the Interior attempted consultation during the Covid-19 pandemic. We also highlight local efforts to monitor Diné health and wellbeing. For Diné people, human health is inseparable from the health of the land. But in applying the primary legal tools for analyzing the effects of extraction across the Greater Chaco region, federal agencies fragment categories of impact that Diné people view holistically.

BEGINNING OF ARTICLE

Diné (Navajo) communities in the Greater Chaco region of northwestern New Mexico have raised concerns that the Department of the Interior (DOI) has not engaged in meaningful public involvement and Tribal consultation to inform its decisions about oil and gas

development. For Diné people, human health is inseparable from the health of the land. But in applying the primary legal tools for analyzing the effects of extraction across the Greater Chaco landscape, federal agencies tend to fragment categories of impact that Diné people view holistically. Because of federal agencies' failure to collaborate with communities most affected by extraction, DOI, under previous leadership, has acted based on incomplete information about existing and potential direct, indirect, and cumulative impacts.

How federal agencies approach public participation and Tribal consultation has critical implications for environmental justice. Requirements in U.S. federal laws like the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA) establish minimum standards for meaningful engagement with frontline communities, sovereign Tribal nations, and broader publics, but following these standards does not guarantee equitable, just processes or outcomes. In arguing as much, we firmly believe that nothing short of a redistribution of power, which includes "the repatriation of Indigenous land and life"¹, will truly bring about environmental justice. But this essay focuses on openings within existing federal law to involve Tribes and publics more meaningfully in resource management planning and decision-making, while recognizing the limits of this involvement when only federal actors dictate the terms of participation and analysis. We stress that the caretaking of Indigenous homelands is a public health and environmental justice issue for Diné people. Extraction in the Greater Chaco, as well as the control of Diné lands by non-Native actors, can interfere with the ability of Diné people to practice these relations of care. We point to Diné Fundamental Law as an example of where the inseparability of human and environmental wellbeing in a Diné worldview is expressed. We do not offer interpretations of Fundamental Law or expand in detail on Diné epistemology regarding relationships between humans and other beings, but we highlight these

ways of knowing to signal some of their core differences from a Euro-American worldview. These differences, we suggest, are often problematically glossed over in federal decision-making.

Controversy over a Draft Resource Management Plan Amendment and Environmental Impact Statement (RMPA-EIS) for the Bureau of Land Management's (BLM) Farmington Field Office (FFO) in northwestern New Mexico exemplifies the critical nexus of public participation, Tribal consultation, health, and environmental justice. In process since 2014, the Draft RMPA-EIS was released for public comment just as the COVID-19 pandemic devastated Indigenous communities across the region. While BLM has not yet made a final decision on the RMPA-EIS, it is worth examining the seven-year process to-date and the content of this draft plan for the coloniality it reveals within the federal oil and gas program.

The Navajo Nation Chapters (local units of government) of Counselor, Ojo Encino, and Torreon, which together form the Tri-Chapter Council, are in the heart of contentious new and ongoing hydraulic fracturing ("fracking") development near Chaco Culture National Historical Park, which the RMPA-EIS is meant to analyze. The Tri-Chapter is in an eastern part of Diné homelands called Dinétah, the place of emergence of Diné people into this world. Diné homelands are bound by six sacred mountains: to the east, Sis Naajini, to the south Tsoodzil, to the west Dook'o'osliid, and to the north, Dibé Nitsaa. Dinétah, marked by the last two sacred mountains, Dził Na' oodilii and Dził Ch'ool'il, symbolizes a doorway into these homelands. Diné people have lived in Dinétah since time immemorial, caring for the land as instructed by the Holy People.^{2,3}

Yet despite the paramount importance of Dinétah in Diné cosmology and the prevalence of sacred sites throughout the region, much of the land base is controlled by federal, state, and private actors - not by the Navajo Nation government. Many of the Navajo Chapters in Dinétah are outside of the formal Reservation boundaries. Over the course of colonial settlement, Diné homelands were surveyed and divided into distinct tracts of land over which the federal government claimed jurisdiction—and then granted piecemeal to settlers, the State of New Mexico, and to some individual Diné allotment owners. The result is a “checkerboard” legal landscape: a complex patchwork of federal, state, private, tribal trust, and Indian allotted jurisdictions. Due to the fragmentation of Diné territory in the region, DOI’s BLM and the Bureau of Indian Affairs (BIA) have the enforced legal authority to make most decisions regarding oil and gas development there.^{2,3} Because of the proximity of ongoing and potential fracking to Chaco Culture National Historical Park and the importance of the Greater Chaco landscape to Diné, Pueblo, Hopi, and Apache peoples, controversy over extraction in this region has garnered substantial national attention.⁴

Taking the Farmington Draft RMPA-EIS as a case study in which the COVID-19 pandemic rendered already-inadequate consultation processes nearly impossible, we show why it is imperative that public participation and Tribal consultation not be treated merely as box-checking exercises for federal agencies. Instead, as exemplified by Diné residents documenting the impacts of fracking in the Tri-Chapter, frontline communities have a wealth of important knowledge about the actual and potential effects of extraction (see Appendix I). This knowledge should guide collaborative decision-making about land management and infrastructure projects.

Farmington Mancos-Gallup Resource Management Plan Amendment

In 2014, BLM announced it would launch a public process to amend the Resource Management Plan (RMP) for its Farmington Field Office (FFO) in northwestern New Mexico. RMPs are major planning documents that outline how a BLM field office will administer federally-managed lands and resources within its jurisdiction over a long period, usually about 20 years. The last RMP for the FFO was finalized in 2003. At that time, BLM had not anticipated that by 2010 oil and gas companies would flock to the region's San Juan Basin to extract oil from a previously untapped hydrocarbon reservoir, the Mancos shale. Instead, BLM had planned for long-standing "conventional" oil and gas development to continue apace.⁵

The purpose of the Resource Management Plan Amendment (RMPA) process was to supplement the analysis in the 2003 RMP by accounting for the impacts of Mancos shale development. In 2016, BIA joined BLM as a co-leading agency in the preparation of the RMPA and its accompanying Environmental Impact Statement (EIS), which BIA would use to guide mineral leasing decisions on Tribal trust and Indian allotted lands.⁶

As BLM and BIA undertook a process to analyze the impacts of Mancos shale development, the agencies nevertheless proceeded to permit new Mancos shale extraction. In a region with over 40,000 active and abandoned oil and gas wells, where over 91% of federally-managed lands are already leased for oil and gas extraction, this alarmed Tribal governments and many impacted community members.⁷ The Navajo Nation, the All Pueblo Council of Governors, and the National Congress of American Indians adopted resolutions requesting that BLM enact a moratorium on new leasing and drilling on federally-managed lands until the RMPA-EIS was finalized.^{8,9,10} DOI did not heed to these demands. Instead, between 2010 and 2021, its bureaus authorized drilling permits for over 400 new Mancos shale wells, whose potential cumulative

impacts had never been analyzed. Indigenous and environmental advocates continue to challenge these actions in federal court.⁷

Understanding Cumulative Impacts Through Public Participation and Consultation

National Environmental Policy Act

The U.S. National Environmental Policy Act of 1969 (NEPA) is a federal statute that outlines procedural requirements for how federal agencies should assess and disclose potential environmental impacts of federal projects, with a goal of protecting and enhancing the human environment.¹¹ To accomplish this goal, NEPA has two broad aims: 1) ensuring public participation and transparency in federal agency decision-making, and 2) ensuring that federal agency decision-makers are fully informed of, and thoroughly considering, all the relevant factors and potentially significant impacts of their decisions. *See* 42 U.S.C. §§ 4321, 4331. These twin aims should be mutually reinforcing. A full public participation process, with the “fair treatment and meaningful involvement” that environmental justice demands, is necessary to apprise agencies and publics of “relevant factors,” including comprehensive cumulative risks and impacts that can only be fully understood through collaboration with those who experience these impacts.^{12, 13}

NEPA’s implementing Council on Environmental Quality (“CEQ”) regulations, as originally written, required agencies to consider cumulative impacts in their decision-making and planning processes—specifically, in NEPA’s requisite Environmental Assessments or Environmental Impact Statements. 40 C.F.R. § 1508.25 (c)(3). These CEQ regulations define cumulative impacts as “the impact on the environment which results from the incremental impact of the action *when added to other past, present, and reasonably foreseeable future actions*

139 *regardless of what agency (Federal or non-Federal) or person undertakes such other actions.*
140 Cumulative impacts can result from individually minor but collectively significant actions taking
141 place over a period of time.” 40 C.F.R. § 1508.7 (emphasis added). The “environment,” in turn,
142 “shall be interpreted *comprehensively* to include the natural and physical environment *and the*
143 *relationship of people with that environment*,” 40 C.F.R. § 1508.14. (emphasis added). This
144 relationship includes, but should not be limited to or compartmentalized into, “physical,
145 biological, and social forces”.¹¹

146 It is critical for advancing environmental justice in and through the NEPA process that
147 the relationship between people and the environment is viewed from the perspective of those
148 who know it firsthand. Environmental assessments must not be confined to a Euro-American
149 worldview characterized by what Dongoske et al. call “scientific materialism”, a lens that views
150 ecosystems as composed of discrete parts, whose variables and interactions can be studied.
151 While this worldview has tended to dominate NEPA processes, Indigenous peoples often have
152 other ways of understanding the environment that “get short shrift in NEPA analyses”.¹¹ A focus
153 on single-pollutant, risk-based modeling in U.S. federal environmental laws and regulations has
154 excluded other valid perspectives and sources of knowledge from decision-making, and has led
155 agencies to compartmentalize impacts, and even pollutants, and to dismiss their significance
156 accordingly.¹¹

157 For example, in DOI’s Draft Farmington RMPA-EIS, the Department bracketed the
158 impacts of fracking and oil and gas development authorized by the Plan into discrete categories
159 such as “cultural,” “health,” “economic,” “climate,” “air quality” or “water quality.”¹⁴ This
160 segregation of impacts does not reflect the perspectives and information shared by Tribal
161 governments and frontline communities for years leading up to the Draft RMPA-EIS.⁶ DOI

occasionally discussed cumulative impacts briefly *within* some of these categories in the Draft RMPA-EIS, but didn't appear to consider *relationships* of these impacts to one another or to consider these and other impacts as they are identified and documented by those who live in the Greater Chaco region (see Appendix I).

Diné Fundamental Law, ordained by the Holy People and formally enacted by the Navajo Nation Council in 2002, is an example of a longstanding juridical tradition that operates with a different understanding of the relationship between humans and the environment than that which BLM assumes when applying NEPA, where “humans”, “environment”, and “culture” are treated as separate categories of analysis.¹⁵ No such distinctions are made in Diné Fundamental Law, whose purpose is to “provide sanctuary for the Diné life and culture, our relationship with the world beyond the sacred mountains, and the balance we maintain with the natural world”.¹⁶ The integral relationship between Diné people and the environment is articulated in Diné Fundamental Law as follows:

“Mother Earth and Father Sky is part of us as the Diné and the Diné is part of Mother Earth and Father Sky; the Diné must treat this sacred bond with love and respect without exerting dominance for we do not own our mother and father”. 1 N.N.C. § 205

As expressed in Diné Fundamental Law and by Tri-Chapter residents, the continuation of Diné culture is bound up with care for the broader environment, which is, simultaneously, care for the people and kinship relationships (see Appendix I).³

The Future of Cumulative Impacts and Environmental Justice Under NEPA

183 In 2020, the Trump Administration gutted CEQ NEPA regulations, and targeted sections
184 at the heart of environmental justice—striking the mandates that agencies consider indirect and
185 cumulative impacts, and further eviscerating public participation requirements. If the Biden
186 Administration restores or strengthens the original CEQ regulations, it is critical that such
187 revisions are drafted and reviewed with those in frontline communities as colleagues from the
188 outset.

189 Regardless of the state of the CEQ regulations, U.S. state and federal courts have held
190 that federal agencies must take a “hard look” at environmental justice in their NEPA analyses
191 and processes. In doing so, they have looked to the language of NEPA, Executive Order 12898
192 on environmental justice, and agency guidance on environmental justice in the NEPA process.¹⁷
193 For example, in *Standing Rock Sioux Tribe v. U.S. Army Corps of Engineers*, the court looked to
194 the CEQ Guidance on Environmental Justice in the NEPA process and ruled that it was not
195 enough for an Army Corps environmental assessment (EA) merely to acknowledge that the
196 Standing Rock community had a high percentage of “minorities” and “low-income individuals,”
197 and could be affected by an oil spill from the Dakota Access pipeline. The court noted that the
198 EA was silent on the “cultural practices of the Tribe and the social and economic factors that
199 might amplify its experience of the environmental effects of an oil spill” and that in order to
200 meet its NEPA “hard look” obligations, the agency “needed to offer more than a bare-bones
201 conclusion that Standing Rock would not be disproportionately harmed.”¹⁸ In a subsequent
202 Memorandum Opinion, the Court stated that “in this Circuit, NEPA creates, through the
203 Administrative Procedure Act, a right of action deriving from Executive Order 12898” and that
204 NEPA further requires the agency to determine how a project will affect a Tribe’s treaty rights.¹⁹
205

206 *The National Historic Preservation Act*

207 The National Historic Preservation Act of 1966 (NHPA) is a federal statute intended to
208 preserve historic and archaeological sites across the United States. NHPA’s Section 106 requires
209 federal agencies to consider how federally approved or funded projects, like the Farmington
210 RMPA-EIS, may affect historic properties as defined by law.^{11,20} Section 106 mandates that
211 federal agencies consult with Tribes, Alaska Natives, and Native Hawaiian Organizations, as well
212 as the State Historic Preservation Officer and the Tribal Historic Preservation Officer, regarding
213 federal projects, and guides federal agencies to collaborate with these parties in identifying
214 historic properties, assessing the potential effects of a project on these properties, and developing
215 strategies to mitigate adverse effects.

216 Tribal consultation with Diné and Pueblo Nations regarding the Farmington RMPA-EIS
217 has occurred primarily under the framework of Section 106. However, Indigenous communities
218 across the Greater Chaco region have raised concerns about the adequacy of this consultation
219 process and the lack of thorough ethnographic surveying that should accompany Section 106
220 analyses, arguing that that DOI has failed to meaningfully consult with Indigenous peoples and
221 governments during the RMPA-EIS process, quarterly oil and gas leasing, and regular permitting
222 activities.

223 For example, Samuel Sage, Community Services Coordinator for Counselor Chapter and
224 co-author of this essay, describes his experience of “consultation” with DOI on the Draft RMPA-
225 EIS as follows:

226 “I have never once experienced BLM come to Counselor Chapter and actually listen to
227 residents’ concerns. When BLM does occasionally show up, it is to inform us of a
228 decision the agency has effectively already made and then to defend that decision without

taking our community's feedback into account. This is how the NHPA Section 106 process for the RMPA-EIS felt as well – like BLM had already decided they wanted to approve more oil and gas development in our area, and tribal consultation was just a formality they had to go through beforehand. This is not meaningful consultation.”

Sage's experience underscores how the minimum standards established by law do not ensure meaningful consultation. Like NEPA, NHPA is a procedural statute. Courts have tended to uphold agencies' decisions to authorize projects even if doing so will result in adverse effects to cultural properties, so long as the procedural benchmarks of the law have been met.^{21,22} However, in the Greater Chaco region, DOI decisions have resulted in significant consequences for environmental justice in both Counselor and the broader Tri-Chapter community. Since fracking began in the Tri-Chapter, residents have noticed increased and constant air pollution, disappearance of medicinal plants, degradation of local roads, and increased health effects (see Appendix I).

These concerns reflect the long-term presence of oil and gas development across the Greater Chaco landscape, where Diné communities are surrounded by extraction. However, BLM's methods under both NEPA and NHPA for assessing oil and gas proposals rely on a tiered scalar analysis that undermines the agency's ability to understand these cumulative impacts and their effects on the wellbeing of Diné and Pueblo communities. For example, BLM defers its site-specific examination of potential cultural resource impacts to the drilling permit stage, right before a site is prepared for extraction.²³ At this point in the review process, oil and gas leases have already been approved and the lessee has secured a legal right to develop minerals. Minor modifications to the project may be made to *mitigate* impacts to cultural resources - for instance, a culvert may be moved over by a few feet to avoid a medicinal plant - but the project is unlikely

to be stopped. This method belies distinctly colonial assumptions about land inherent to BLM's management practices - that, once parcelled out and sold, impacts to one piece of land can be examined in isolation from the landscape of which it is a part. By contrast, for Diné people, the land is a living entity. Like a human body, all its parts are connected.

Diné and Pueblo groups have argued that BLM could reduce some of its blindspots regarding impacts to cultural resources by involving Tribes and Indigenous communities early and often in decision-making regarding federal land-use planning and leasing through processes of meaningful consultation and consent.²⁴ These groups also remind BLM that a Congressionally funded ethnographic study, led by the Pueblos of Acoma, Jemez, Laguna, and Zuni, the Hopi Tribe, and the Navajo Nation is underway and should inform future land use plans.²⁵ That this study is led by Indigenous experts is significant because, as Diné and Pueblo people have consistently pointed out, only experts from their own communities have the knowledge required to identify many cultural sites.⁶

Even when ethnographic studies are conducted, Indigenous peoples face additional challenges in rendering their concerns about the protection of sacred lands intelligible to federal agencies and courts. NHPA's strict criteria for listing on the National Register of Historic Places, its tendency to value written evidence over oral histories, and the burden of demonstrating an impact to sacred sites under the law, all limit the usefulness of NHPA for Indigenous peoples in protecting sacred places.²⁶ Moreover, some Indigenous religious practices require keeping private the location and purpose of sacred sites, which can make it challenging for Tribes to present all the evidence needed to advocate for the recognition of a place or site as a "historic property" under the NHPA.²⁷

Examining cases where Tribes have brought legal challenges against federal agencies’ decisions regarding cultural resources, Tsosie notes that Courts have tended to consider sovereign Tribal governments just one set of “stakeholders” in a broader conversation about public lands management.²⁰ This tendency glosses over the special government-to-government relationship that Tribes have with the United States, as well as the unique nature of Indigenous claims to place. The propensity in U.S. jurisprudence to adjudicate resource conflicts in terms of competing property claims between Tribes and other parties, like potential developers, often falls woefully short of what Tribes argue in such cases.²⁰ For instance, in the Greater Chaco region, Diné and Pueblo peoples advocating for landscape-level protection are doing so to affirm not an individual right to property, but an expansive set of collective and cultural rights and responsibilities to care for the land.^{20, 26}

Federal laws like NHPA and NEPA tend to require Indigenous peoples to articulate their positions within the constraining frameworks of Euro-American juridical traditions, and federal agencies have typically treated Tribal consultation as merely a right to be involved, at best. But meaningful consultation conducive to an understanding of the cumulative and environmental justice impacts of federal projects must begin from a place where Indigenous peoples can “effectively determine the outcome of decision-making that affects them”.^{28, 29} This means that the terms of participation and analysis cannot be presumed by federal institutions in advance.

RMPA-EIS Process, COVID-19, and the Impossibility of Participation and Consultation

On February 28, 2020, just weeks before the Navajo Nation, Pueblo Nations, and the State of New Mexico implemented stay-at-home orders in response to the COVID-19 pandemic, DOI released a Draft of the long-anticipated Farmington RMPA-EIS. The scenarios, or

“alternatives,” presented in the plan did not reflect public feedback provided during scoping in years prior, during which commenters overwhelmingly asked DOI to end new oil and gas development in the region.⁶ Instead, the alternatives presented would allow for the drilling of 2,345-3,101 new oil and gas wells, signaling to impacted communities that their feedback about the destructive impacts of extraction had not been meaningfully taken into account.¹⁴

The release of the Draft RMPA-EIS triggered a 90-day public comment period. Despite requests from Tribes, Pueblos, elected representatives, environmental groups, and publics that the comment period be extended until in-person public meetings could be safely held, DOI opted instead to hold virtual forums to solicit feedback on the plan. At the 11th hour, amid widespread public outcry, the agencies extended the comment period by another 90 days. However, as the close of that comment period drew near, the impacts of the COVID-19 pandemic across the region had only worsened. DOI ignored continued requests for a pause in the process and continued instead to host largely inaccessible virtual meetings.³⁰

The week DOI launched its first round of virtual meetings in May 2020, the Navajo Nation recorded the highest per-capita rate of COVID-19 infections in the United States.³¹ Indigenous communities in New Mexico and across the country were devastated by the pandemic. Native American and Alaska Native peoples face a higher risk of COVID-19 infection and a mortality rate nearly twice that of non-Hispanic white populations.³² Moreover, in the Greater Chaco region, as in many Indigenous, low-income, and communities of color,^{22,33} residents are disproportionately exposed to harmful levels of air pollution from industrial sources, including oil, gas, and coal extraction.³⁴ These exposures compound COVID-19 risks.^{34,35}

In addition to facing disparate COVID-19 impacts, many Diné and Pueblo communities do not have access to broadband internet or telephone coverage required to participate in virtual meetings. New Mexico ranks 49th in the United States for internet access, and less than half of Indigenous residents have internet access in their homes.^{36, 37} Tribal governments were not only concerned about barriers to their citizens' access to the virtual public meetings: elected leaders also insisted that meaningful consultation could not occur so long as Tribes remained focused on responding to the pandemic.

Conclusion

As of Fall 2021, under new leadership, DOI has not finalized the Draft RMPA-EIS. It remains to be seen when the Department will do so, and under what conditions. Meanwhile, Tri-Chapter advocates continue to work towards environmental justice—in both process and outcomes— in the Greater Chaco (see Appendix I).

Current federal laws and regulations do not guarantee meaningful Tribal consultation and public participation—let alone environmental justice. These laws and regulations must be re-imagined, with input from those they have served poorly. But, even within laws like NEPA as interpreted by courts to-date, federal agencies can—and must—do more to advance environmental justice, as defined and understood by those who know firsthand the cumulative impacts of energy and infrastructure projects. For Diné residents of the Tri-Chapter, natural resources are cultural resources, and the health of people is inseparable from the health of the land. A cumulative impact assessment of existing and proposed fracking in the region must begin from this place.

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Appendix I

Counselor Health Impact Assessment - K'ée Bee Hózhoggo Iná Silá Committee

A rapidly growing body of research explicitly links environmental justice with cumulative impacts and social and structural factors that influence health and wellbeing, often called “social determinants of health,” and examines how cumulative risks and impacts, from pollution exposure to water access to systemic racism, lead to or exacerbate health inequities.^{38,39} These inequities are not incidental, nor are they biologically determined – they are structural, systemic, and part of an unjust historical and ongoing patterns and practices of environmental racism, settler colonialism, and extractive capitalism.^{22, 33, 40}

However, while emerging research from other regions or communities can be helpful in suggesting causal relationships between cumulative exposures or demonstrating statistical

significance of particular impacts, both of which can be highly persuasive to policymakers and courts, it does not fully convey the place-specific, direct and cumulative impacts in the Tri-Chapter. The cumulative impacts of new fracking development, on top of prior oil, gas, coal, and uranium extraction in the region, were palpable in the Tri-Chapter by the time the Farmington Resource Management Amendment (RMPA-EIS) process was announced in 2014, yet federal agencies showed no sign of taking the concerns of local Diné residents seriously or of trying to understand local risks and impacts to inform the then-emergent RMPA-EIS. A group of particularly concerned residents and groups mobilized to document the changes happening in their community: new chemical odors in the air, harsh lights and sounds, the destruction of sacred sites, the deterioration of local roads, and changes in community relations. Called the Counselor Health Impact Assessment - K'é Bee Hózhqogo Iiná Silá Committee, the group launched a Health Impact Assessment (HIA) in 2018 with a study protocol approved by the Navajo Nation Human Research Review Board. The Committee responded to the primary health concern - oil well emissions - by installing eight indoor-outdoor air monitors to sample air quality in residential areas throughout the Chapter. The HIA revealed several important local risks and impacts not adequately portrayed by the broad, county-level data often cited by federal agencies in their NEPA documents.

Most of Counselor Chapter's 700 residents live within a mile of one or more oil and gas wells, pipelines or other pieces of oil and gas infrastructure that are ongoing sources of pollutant exposures. A growing number of studies indicate that living in such close proximity to oil and gas infrastructure and fracking is detrimental to respiratory and reproductive health—with some evidence of adverse health risks and effects at up to 10 miles' distance.³ The Committee

389 produced preliminary data on the kinds of pollutants that residents in Counselor are exposed to.
390 The group’s locally specific air monitoring revealed levels of airborne formaldehyde that far
391 exceeded permissible exposure levels and particulate matter that routinely spiked to unhealthy
392 and hazardous, as well as the continuous presence of volatile organic compounds (VOCs), all of
393 which can be harmful to human respiratory health, and in the case of formaldehyde, lead to nose
394 and throat cancer. While these “episodic intense peak exposures may only last for a few minutes
395 to an hour in Counselor,” the Committee found that “such exposures can cause acute health
396 symptoms, even though the total exposure averaged over a 24-hour period appears acceptable”
397 under national air quality standards applied to a larger area and broader population.⁴ And even
398 short-term air pollution exposures can have both acute and chronic health consequences,
399 particularly during a respiratory pandemic such as the ongoing COVID-19 crisis.³⁴ When
400 considered cumulatively, these exposures are a cause of concern for local residents.

401 The Committee also collected health surveys from 80 residents in Counselor to begin to
402 understand what health symptoms residents were experiencing since drilling began near their
403 homes. 90% of respondents reported sore throat and sinus problems; 80% reported coughs,
404 headaches, itchy eyes, joint pain, and fatigue; 70% reported nosebleeds and wheezing; and others
405 reported experiencing one or more symptoms associated with fracking-related chemical
406 exposures, like nausea and shortness of breath (see Table 1).³ Despite these widely reported
407 symptoms potentially related to chemical exposures, it seems that DOI has failed to consider the
408 health impacts of fracking for Diné communities in the Draft Farmington RMPA-EIS, as
409 reflected by both its content and the process surrounding it.

For Diné people, wellbeing includes the ability to practice cultural values, which includes caring for the Earth. Tri-Chapter residents were concerned that fracking was disrupting conditions necessary for cultural and spiritual wellbeing. The Committee thus designed a second part to the HIA, called K'é Bee Hózhqǫgo Iiná Silá, which utilizes Diné teachings and epistemology to understand the impacts of fracking. David J. Tsosie, medicine man, co-author of this essay, and Principal Investigator of the study, describes the importance of the work as follows: "The Diné people have, since time immemorial, followed the sacred teachings that they are the steward of the land and that they should honor and respect the interconnectedness of the natural order of life. Should they allow this disruption of the interconnectedness of our environment, there would be serious consequences". Tsosie explains that this is "what the Tri-Chapter communities are experiencing through the contamination of their air, water, land, animals, sacred sites, and the health of the community members. This disharmony has also eroded the K'é relationships between the community members. K'é is one of the most important components of our social structure that ensures a positive relationship and holds the community together."

The K'é Bee Hózhqǫgo Iiná Silá study included a cultural survey conducted with 136 residents across Counselor, Ojo Encino, and Torreon Chapters. Among the study's many findings, it revealed overwhelming concern among residents about the loss of medicinal plants, loss of sacred sites and landscapes, concerns about the behavior of oil and gas companies, and frustration with governments over insufficient community-level consultation. The study concluded with a series of recommendations for federal, state, and tribal agencies, first and foremost of which was to ensure that "any land management decisions, including decisions

regarding oil and gas development, must be informed by meaningful consultation and processes of Free, Prior, and Informed Consent”.³

Table 1 – Widely Reported Health Symptoms Among Counselor Residents

Symptom	Percentage of Survey Respondents Experiencing Symptom
Sore Throat	91%
Sinus Problems	93%
Cough	85%
Itchy Eyes	80%
Headache	83%
Joint Pain	83%
Fatigue	80%
Nosebleeds	70%
Wheezing	72%

Data from a community-led health survey of 80 Counselor Chapter residents, or 11.4% of the population of Counselor (700). Percentages correspond to the number of respondents who indicated that they experienced a specific symptom, e.g., 93% of respondents reported that they experienced sinus problems and 70% of respondents indicated that they experienced nosebleeds.⁴

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