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Bureau of Land Management

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Proposed Chaco Area Withdrawal
Environmental Assessment
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A	Legal Descriptions of the Parcels of Public Lands Identified for Withdrawal
B	Report Summarizing Public Input Received
C	Economic Modeling Technical Approach Memorandum

ACRONYMS AND ABBREVIATIONS

Full Phrase

ACEC	area of critical environmental concern
BIA	Bureau of Indian Affairs
BLM	United States Department of the Interior, Bureau of Land Management
CCAPS	Chaco Culture Archaeological Protection Site
CCNHP	Chaco Culture National Historical Park
CDP	Census Designated Place
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
EA	environmental assessment
EJ	environmental justice
FFO	Farmington Field Office
FLPMA	Federal Land Policy and Management Act of 1976
H.R.	House Resolution
IMPLAN	Impact Analysis for Planning
IRA	Inflation Reduction Act of 2022
LWC	lands with wilderness characteristics
mcf	thousand cubic feet
MSA	Mescal Settlement Agreement
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
RFDS	reasonably foreseeable development scenario
RMP	resource management plan
RMPA	resource management plan amendment
SHPO	State Historic Preservation Officer
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States
USC	United States Code
WHS	World Heritage Site

Chapter I. Introduction

I.1 BACKGROUND

On January 6, 2022, the Bureau of Land Management (BLM) published notice of the Secretary of the Interior's proposal to withdraw public lands located within a radius of approximately 10 miles¹ surrounding the Chaco Culture National Historical Park (CCNHP) for up to 20 years. Under the proposal, the public lands would be withdrawn from location and entry under the United States (US) mining laws and from leasing under the mineral leasing laws, subject to valid existing rights; however, the lands would not be withdrawn from disposal under the mineral materials laws. This environmental assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) to analyze and disclose the environmental consequences of the proposed 20-year withdrawal of approximately 338,690 acres of BLM-administered public land in northwestern New Mexico from location and entry under the US mining laws and from leasing under the mineral leasing law.

The BLM requested this proposed withdrawal to support effective management of this unique and culturally important landscape. Between approximately AD 850 and 1150, the Chacoan peoples flourished, with Chaco Canyon serving as a social and religious center, followed by a shift north to the current Aztec area. During the 1000s, a series of structures like those in Chaco Canyon was constructed in and around the San Juan Basin. These sites are referred to as Chacoan outliers. The sophistication of the culture is clearly visible in the grand scale of the architecture set in a landscape of sacred mountains, mesas, and shrines that have deep spiritual meaning to this day. Much of the Chaco Canyon area is protected as CCNHP. The park and six other nearby sites were designated as a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site (WHS) in 1987. The broader landscape surrounding the park is made up of lands that also have important cultural resources, sacred sites, and high value to local and regional communities.

Within the administrative boundaries of the Farmington Field Office (FFO), 125 Great House and Great House outlier structures are known to exist. Many of these are within the CCNHP boundaries, while others are on lands managed by the BLM, the Navajo Nation (Tribal Trust and Indian Allotted), the Ute Mountain Ute Tribe, the National Park Service, the State of New Mexico, and private individuals. On BLM-administered surface, there are 21 outliers, with 19 having additional protections by being within an area of critical environmental concern (ACEC), a Chaco Culture Archaeological Protection Site (CCAPS), or a UNESCO WHS (see **Table I-1**). Of these 21, nine would be incorporated into the proposed mineral withdrawal boundaries. Two of the outliers (Reservoir Ruin and Bee Burrow) that fall outside the withdrawal area are within sufficient proximity (21 feet and 1,900 feet, respectively) that any associated landscapes may also benefit from the withdrawal.

¹ 87 *Federal Register* 785 (Thursday, January 6, 2022). The approximate 10-mile buffer surrounds all units of CCNHP, with additional acreage to the northwest toward Bisti/De-Na-Zin Wilderness Area and the area between the main CCNHP and Kin Ya'a to the southwest. The curvilinear boundary was then adjusted to fractional parts (that is, divisions of surveyed sections of land into square or rectilinear geographic units).

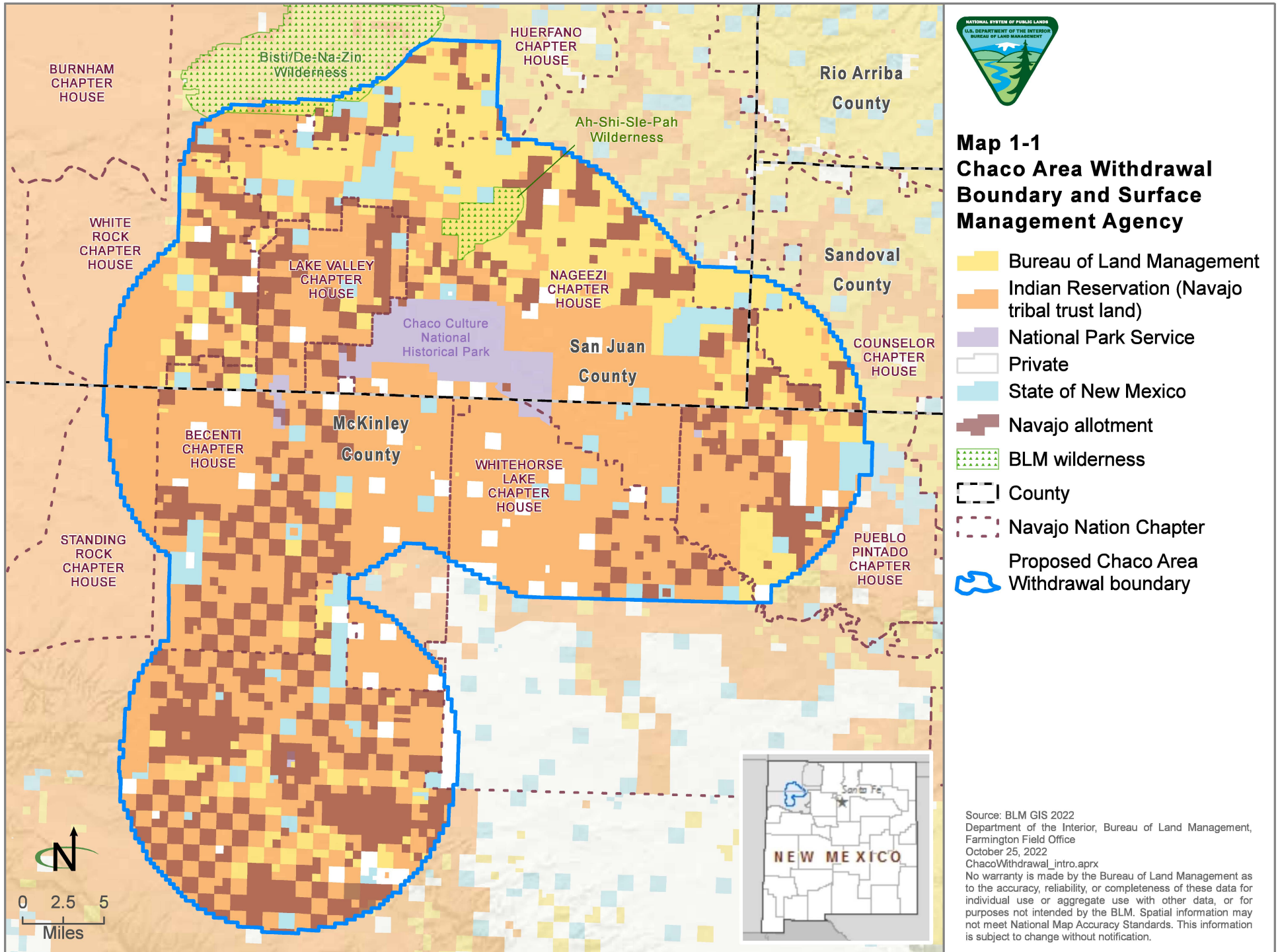
Table I-1. Chacoan Outliers on BLM-administered Lands within Farmington Field Office

Outlier Name	Withdrawal Area	ACEC Name	CCAPS Name	WHS Name	Development Potential[†]
Andrews	Out	Andrews Ranch	Andrews Ranch	—	Negligible
Bee Burrow	Out	Bee Burrow	Bee Burrow	—	Negligible
Bis'saani East	In	Bis sa'ani	Bisa'ani	—	Medium
Bis'saani West	In	Bis sa'ani	Bisa'ani	—	Medium
Casa Abajo	In	Indian Creek	Indian Creek	—	Negligible
Casa Cielo	In	Indian Creek	Indian Creek	—	Negligible
Casamero	Out	Casamero Community	Casamero	Casamero	Negligible
Church Rock	Out	Church Rock Outlier	—	—	Negligible
Halfway House	Out	Halfway House	Halfway House	Halfway House	High
Kin Klizhin, Upper	In	Upper Kin Klizhin	Upper Kin Klizhin	—	Negligible
Kin Nizhoni, Lower	Out	Kin Nizhoni	Kin Nizhoni	Kin Nizhoni	Negligible
Kin Nizhoni, Upper	Out	Kin Nizhoni	Kin Nizhoni	Kin Nizhoni	Negligible
LA 72343	In	—	—	—	Negligible
La Plata	Out	—	—	—	Medium
Morris 41	Out	Morris 41	Morris 41	—	Medium
Pierre's El Faro	In	Pierre's Site	Pierre's Site	Pierre's Site	Medium
Pierre's House A	In	Pierre's Site	Pierre's Site	Pierre's Site	Medium
Pierre's House B/C	In	Pierre's Site	Pierre's Site	Pierre's Site	Medium
Reservoir Ruin	Out	Chacra Mesa Complex	—	—	Negligible
Toh-La-Kai	Out	Toh-la-kai	Toh-La-Kai	—	Negligible
Twin Angels	Out	Twin Angels	Twin Angels	Twin Angels	Medium

[†]Development potential based on the reasonably foreseeable development scenario (RFDS; BLM 2018).

In addition to the Chacoan outliers, other components of the Chacoan landscape also appear within the FFO's boundaries. Prominent features include the various "roads" that often emanate from Great Houses. These roads may extend only a short distance from a structure, but they also may serve to connect individual structures across the San Juan Basin. On BLM-administered lands, road segments often fall within, and receive protections from, the ACEC, CCAPS, or WHS associated with the outliers. There are three ACECs specific to Chacoan roads (Ah-shi-sle-pah Road, Crownpoint Steps and Herradura, and North Road) in the area proposed for withdrawal.

The proposed 965,670-acre withdrawal area (containing all lands within the approximate 10-mile buffer) includes acres managed by different surface management entities. The proposed withdrawal pertains to public lands managed by the BLM FFO, where the lands are located, and specifically the area surrounding the CCNHP (see **Map I-1**). In some instances, the BLM FFO manages federal minerals where the surface is managed by another entity (see **Map I-2**). **Table I-2** lists the land managers or owners within the area proposed for withdrawal along with the acres of federal minerals underlying the surface acres these entities own or manage.



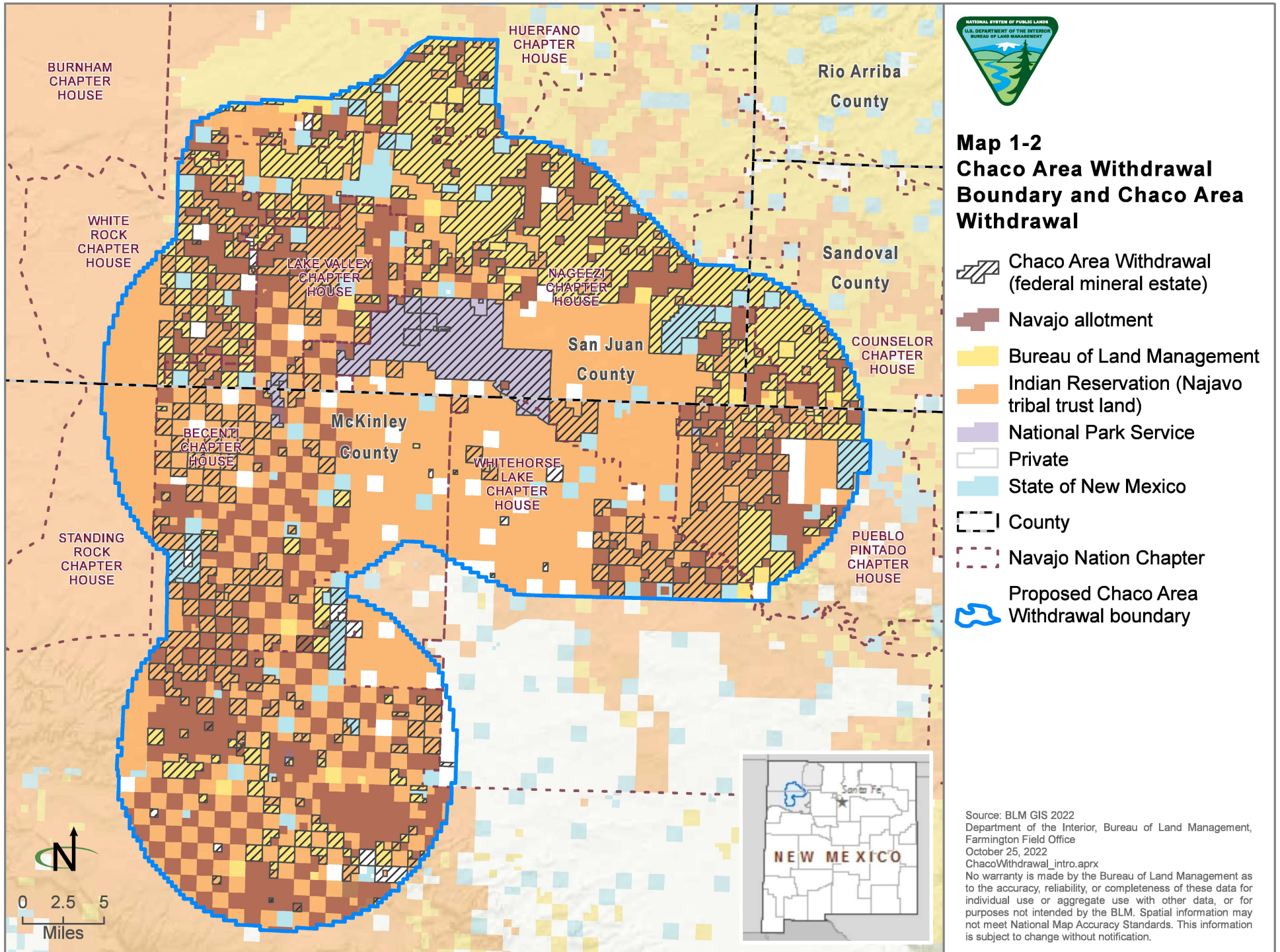


Table I-2. Federal Minerals Associated with Federal and Nonfederal Land within the Withdrawal Boundary (Acres)

Land Manager or Owner	Surface, Record Acres [^]	Surface, GIS Acres [^]	Federal Minerals in Withdrawal Boundary, Record Acres ^{^***}	Federal Minerals in Withdrawal Boundary, GIS Acres [^]
BLM	169,063.30	169,960	155,444.09	156,260
National Park Service	32,782.13	33,240	31,990.46	32,430
State of New Mexico	52,110.15	52,480	14,388.87	14,440
Indian/Tribal	668,046.40	672,850	129,063.29	129,990
Private	36,822.82	37,140	5,537.67	5,570
Total	958,824.80	965,670	336,424.38	338,690

[^] “Record acres” are derived from legal descriptions and BLM Master Title Plats. Record acres are the official acres for the proposed withdrawal. “GIS acres” are derived from digital spatial drawings of the record acres using the NAD83 datum and UTM Zone 13 Projection. GIS acres are used for analysis purposes in this EA. GIS acres are rounded to the nearest 10 acres. As a result, minor rounding errors may occur.

^{***}The *Federal Register* notice published on January 6, 2022 stated that 351,479.97 acres were proposed for withdrawal. In research subsequent to the *Federal Register* notice, the BLM identified that some described lands lacked federal mineral estate; these lands have been removed from this EA. Additional lands having federal mineral estate were also identified as omitted and have been identified by a land survey report, which was signed on September 15, 2022. These additional lands totaled 3,188.01 acres; they will be published in a supplemental *Federal Register* notice. One parcel lacking federal mineral estate to be removed from the final proposal, as well as fractions of other described lands having federal mineral estate, was included in both the original *Federal Register* notice and the subsequent land survey report.

Additional descriptions of the lands summarized in **Table I-2** and illustrated in **Map I-1** are provided below.

New Mexico State Lands—In 2019, New Mexico’s Commissioner of Public Lands Stephanie Garcia Richard signed Land Office Executive Order 2019-002, placing a moratorium on new oil and gas development on New Mexico state trust land in a 12-mile buffer zone around Chaco Canyon. The Executive Order expires on December 31, 2023.

Decision Area—The area proposed for withdrawal from location and entry under the US mining laws and from leasing under the mineral leasing laws for up to 20 years, subject to valid existing rights. The decision area consists of a portion of the FFO in McKinley, Sandoval, and San Juan Counties. The area proposed for withdrawal encompasses a 965,670-acre boundary formed by the approximate 10-mile radius surrounding the CCNHP, including lands managed by the BLM, the Bureau of Indian Affairs (BIA; Tribal Trust Lands and individual Indian allotments), the State of New Mexico, the National Park Service, and private landowners.

Navajo Tribal Trust Lands—Lands within the Navajo reservation that the United States holds in trust for the tribe. These lands can be either on reservation or off reservation. Under federal law, such lands generally may not be sold, taxed, or encumbered; however, tribes may be able to lease Trust lands, and the lessee or sublessees of such lands may be able to grant leasehold mortgages on their leasehold interests, subject to federal approval.

Individual Indian Allotments—Parcels of land held in trust by the United States for individual Indians or held by Indians and otherwise subject to a restriction on alienation (that is, there would be a restriction on the Indian owner’s ability to sell or transfer the allotment to another party).

Mineral Estate—The ownership of minerals, including rights necessary for access, exploration, development, mining, ore dressing, and transportation operations.

Farmington Mancos-Gallup Resource Management Plan Amendment and Environmental Impact Statement—The BLM FFO, in coordination with the BIA Navajo Regional Office, is in the process of preparing a Draft Resource Management Plan Amendment and Environmental Impact Statement (RMPA/EIS) to analyze and update (from the 2003 resource management plan [RMP]) resource management issues for a planning area that includes some of the area proposed for withdrawal. The planning effort is separate from the proposed withdrawal evaluated in this EA.

The RMPA/EIS will analyze the impacts of additional development in what was previously considered a fully developed oil and gas play within the San Juan Basin in northwestern New Mexico. Decisions in the Mancos-Gallup RMPA/EIS will be focused on the following resource programs: fluid leasable minerals, vegetation management, lands and realty, and lands with wilderness characteristics (LWC). All other resources are outside the scope of this planning effort. However, the impacts of the decisions for the resources being addressed will be analyzed with respect to all affected resources.

In addition to the No Action Alternative considered in this planning effort, which would continue the current management outlined in the 2003 RMP, the BLM has identified four action alternatives for consideration, including eight sub-alternatives that would apply specifically to fluid mineral leasing management around the boundary of CCNHP. The sub-alternatives vary in surface use restrictions, from no surface occupancy and leasing closures for a range of distances, from 2 miles up to 15 miles around the CCNHP boundary.

During the development of the RMPA/EIS, public input has varied and included support for additional opportunities for fluid mineral development. The public also has had concerns about protecting cultural resources associated with the CCNHP and the greater Chacoan landscape; negative impacts on Native communities (traditional lifeways); and potential impacts on air, water, and land health.

More information on this planning effort is available on the ePlanning website for the Farmington Mancos-Gallup RMPA: <https://eplanning.blm.gov/eplanning-ui/project/68107/510>.

I.2 PURPOSE AND NEED

The purpose of the proposed withdrawal is to protect the public lands proposed for withdrawal and the greater connected landscape containing rich Puebloan, Tribal Nations, and cultural legacies in northwestern New Mexico from the industrial impacts associated with oil and gas development activities, as well as the adverse effects of exploration and mining, subject to valid existing rights. The need for action arises from the increasing threats that exploration and development pose to these sensitive cultural resources. Specifically, the CCNHP and surrounding areas are deeply sacred and irreplaceable landscapes for the Pueblos and Tribal Nations. Their ancestral history is linked to the CCNHP and its surrounding landscape, and their past and present lifeways honor these ancestral traditions and customs.

I.3 DECISION TO BE MADE

Section 204 of the Federal Land Policy and Management Act of 1976 (FLPMA), as amended, authorizes the Secretary of the Interior or a member of the Office of the Secretary who has been appointed by the President, by and with the advice and consent of the Senate, to make, modify, extend, or revoke withdrawals in accordance with the specific provisions of Section 204. Therefore, the Secretary of the

Interior or appropriate departmental official will decide whether to withdraw up to approximately 338,690 acres of BLM-administered public land, which may consist of federal minerals, for a period of up to 20 years, from location and entry under the US mining laws and from leasing under the mineral leasing laws, subject to valid existing rights.

I.4 RELATIONSHIP TO STATUTES, REGULATIONS, AND OTHER NEPA DOCUMENTS

Relevant statutes and regulations applicable to the proposed action include Section 204 of FLPMA, as amended (43 United States Code [USC] 1714), and 43 Code of Federal Regulations (CFR) 2300 (Withdrawals). Mineral resources that may be affected by the proposed withdrawal are managed under the following authorities: 43 CFR 3160 (Onshore Oil and Gas Operations); the Mining Law of 1872; the Mineral Leasing Act of 1920, as amended (30 USC 181 et seq.); 43 CFR 3800 (Mining Claims under the General Mining Laws); 43 CFR 3000 (Mineral Management) and 3400 (Coal Management); the Act of March 3, 1909; FLPMA; and 43 USC 1701 et seq.

This EA incorporates by reference the September 2003 Farmington Environmental Impact Statement/Resource Management Plan with its Record of Decision, as updated in December 2003 (BLM 2003).

I.5 PUBLIC INVOLVEMENT AND ISSUES

I.5.1 Public Information Regarding the Proposed Withdrawal

The BLM FFO initiated public outreach via a notice of proposed withdrawal, which was published in the *Federal Register* (Volume 87, No. 4, Thursday, January 6, 2022); this notice described the proposed action and initiated a 90-day public comment period. Several documents related to the proposed action, including a Department of the Interior fact sheet and a map of the area proposed for withdrawal, were then made available to the public on the BLM New Mexico ePlanning website (<https://eplanning.blm.gov/eplanning-ui/project/2016892/570>). Two in-person public meetings regarding the proposed withdrawal were held on February 23, 2022, in Farmington, New Mexico. A virtual meeting was also held on February 24.

The BLM then published a news release on March 25, 2022, extending the initial deadline (which had been April 6, 2022) for public comments and public meeting requests for an additional 30 days to May 6, 2022. The BLM held three additional public meetings from April 27 to April 29, 2022, in Farmington, Nageezi and Albuquerque, New Mexico. A report summarizing public input received during this period is provided in **Appendix B**.

I.5.2 Issues Identified for Detailed Analysis

The BLM interdisciplinary team developed a list of issues to analyze in detail in this EA. Key issues identified during internal agency scoping are summarized in **Table I-3**. The impact indicators provided are used to describe the affected environment for each issue in **Chapter 3**, to measure how the issue might change under each alternative, and to assess the impacts of the alternatives on the resource at issue.

Table I-3. Issues Carried Forward for Detailed Analysis

Issue #	Issue Statement	Impact Indicator(s)
Issue I	How would the proposed withdrawal affect the availability of solid mineral resources (coal and uranium) within the proposed withdrawal boundary?	Federal solid minerals acreage proposed for withdrawal and location of active solid mineral leasing, mining claims, or production

Issue #	Issue Statement	Impact Indicator(s)
Issue 2	How would the proposed withdrawal affect the availability of fluid mineral resources (oil and gas) within the proposed withdrawal boundary?	Acreage proposed for withdrawal and location of active federal oil and gas production and existing federal fluid mineral leases
Issue 3	How would the proposed withdrawal affect mineral revenue, local employment, and ecosystem services?	Federal mineral acreage proposed for withdrawal, local and regional wages for the industry workforce, and the proximity of the proposed withdrawal to lands with recreational value and other nonmarket resources
Issue 4	How would withdrawal of public land from mineral entry disproportionately affect environmental justice (EJ) communities, such as Navajo Allottees?	Location of allotments; federal mineral acreage proposed for withdrawal near lands associated with communities containing high proportions of minority and low-income residents

Several issues were identified but eliminated from detailed analysis because the BLM determined upon initial review that the resources would not be affected. These are listed in **Table I-4**.

Table I-4. Issues Identified but Eliminated from Detailed Analysis

Issue #	Resource	Rationale for Not Discussing in Detail in the EA*
AQ-I	Air Quality/Greenhouse Gas Emissions	The proposed action would curtail mineral leasing and development. As a result, air emissions associated with development that might otherwise occur absent a withdrawal would not occur over the 20-year withdrawal period. That is, emissions that might otherwise result would not occur, and beneficial effects on this resource may occur following the decrease in otherwise anticipated mineral leasing and development activity within the withdrawal boundary. It would be too speculative to quantify this possible reduction; however, it is sufficient to note the possibility of this beneficial effect from the proposed withdrawal. Therefore, the potential decrease in air emissions associated with mineral leasing and development will not be analyzed in detail.
CR-I	Cultural Resources; Native American Religious and Other Concerns	The proposed withdrawal is the type of undertaking that has no potential to adversely affect Native American religious or other concerns. The proposed withdrawal could limit (not increase) surface-disturbing activities in the area proposed for withdrawal, minimizing the chance of disturbance to cultural resources (such as historic properties). The proposed withdrawal has no potential to adversely affect Native American religious or other concerns. The proposed withdrawal does not involve surface disturbance and could only limit (not increase) future surface-disturbing activities in the area proposed for withdrawal, minimizing the chance of impacts on cultural resources (such as historic

Issue #	Resource	Rationale for Not Discussing in Detail in the EA*
CR-I (continued)	Cultural Resources; Native American Religious and Other Concerns (continued)	properties). Potential impacts on known archaeological and historic sites and areas of traditional cultural and religious significance are analyzed at the leasing stage and at the application for permit to drill stage. Existing ACEC management prescriptions, including no surface occupancy and controlled surface use designations, help ensure the avoidance of adverse effects on historic properties and sites of traditional cultural or religious significance. See Chapter 5 for more information on consultation requirements that have been met pursuant to Section 106 of the National Historic Preservation Act (NHPA), including consultation with the New Mexico State Historic Preservation Officer (SHPO).
PALEO-I	Paleontology	The proposed withdrawal could only limit (not increase) surface-disturbing activities in the area proposed for withdrawal, minimizing the likelihood of disturbance to in situ paleontological resources.
ACEC-I	ACECs	The proposed withdrawal could only limit (not increase) surface-disturbing activities in the area proposed for withdrawal, minimizing the likelihood of disturbance to relevant and important values in any ACEC or to characteristics of other specially designated areas managed by the FFO.
LWC-I	LWC; Wilderness	LWC parcel NM-210-075, which includes the Fossil Forest Research Natural Area, is completely within the proposed withdrawal area. LWC Parcel NM-210-082 on the Chacra Mesa ACEC is partially within the proposed withdrawal boundary. The proposed withdrawal could have a beneficial impact on these LWC parcels by restricting fluid and solid mineral leasing activities, which, if allowed, could negatively impact wilderness characteristics.
VIS-I	Visual Resources	The area proposed for withdrawal includes areas classified as Visual Resource Management class IV, III, II, and I. The proposed withdrawal could have a beneficial impact on visual resources, as the visual contrast from surface-disturbing activities could be reduced by not leasing these lands.
REC-I	Recreation	The proposed withdrawal would not impact dispersed recreation on BLM-administered lands, privately owned lands, or Tribal Trust Lands managed by the BIA, or make currently available recreational lands unavailable for public use. No private recreational uses of lands within the area proposed for withdrawal have been identified; therefore, no private recreational uses would be affected by the proposed action.
LAND-I	Lands/Access	Under the proposed action, all realty actions would continue as described in the 2003 RMP.

Issue #	Resource	Rationale for Not Discussing in Detail in the EA*
GRAZ-I	Livestock Grazing	The proposed action would not impact livestock grazing within the area proposed for withdrawal. This is because the withdrawal of public land would only be from location and entry under the US mining laws and leasing under the mineral leasing laws; other uses of the public land would not be affected. The BLM would continue to manage public land grazing as described in the 2003 RMP.
PLHS-I	Public Land Health Standards	The proposed withdrawal of public land would only be from location and entry under the US mining laws and leasing under the mineral leasing laws; other uses of the public land would not be affected. No impacts on public land health standards are expected.
ISNW-I	Invasive Species/Noxious Weeds	The proposed withdrawal would limit location and entry under the US mining laws and leasing under the mineral leasing laws. A reduction in mineral development and surface-disturbing activities, which often promote the establishment and distribution of noxious and invasive weed species, in the area proposed for withdrawal may result in a beneficial reduction in the spread of invasive species and noxious weeds.
VEG-I	Vegetation excluding US Fish and Wildlife-Designated Species	The proposed action is not expected to adversely impact vegetation, including US Fish and Wildlife Service-designated species, within the area proposed for withdrawal. The proposed withdrawal would limit location and entry under the US mining laws and leasing under the mineral leasing laws. A reduction in mineral development and surface-disturbing activities, which often result in disturbance to vegetation, in the area proposed for withdrawal may result in a beneficial reduction in disturbance of vegetation.
SSS-I	Special Status Plant and Animal Species	The proposed action would not adversely impact any BLM sensitive species or habitat.
TE-I	Threatened, Endangered, or Candidate Plant and Animal Species	The proposed withdrawal would not adversely impact any threatened, endangered, or candidate species or habitat. The proposed withdrawal would limit location and entry under the US mining laws and leasing under the mineral leasing laws. A reduction in mineral development and surface-disturbing activities, which often result in disturbance to such species or habitat, in the area proposed for withdrawal may result in a beneficial reduction in disturbance; however, it would not otherwise result in any changes to BLM-administered public lands. Management of habitat for threatened and endangered species and existing protections would continue as described in the 2003 RMP.
BIRD-I	Migratory Birds	The proposed action would not adversely impact any migratory bird-nesting habitat, including raptor habitat. Management of surface resources, including habitat for migratory bird species, would continue as described in the 2003 RMP.

Issue #	Resource	Rationale for Not Discussing in Detail in the EA*
WLDF-I	Wildlife	The proposed action would not adversely impact any small or big game species. Management of surface resources affecting wildlife would continue as described in the 2003 RMP.
WLDN-I	Wilderness	The area proposed for withdrawal includes part of the Bisti/De-Na-Zin and the entire Ah-shi-sle-pah Wilderness Areas. Because wilderness areas are already withdrawn, the proposed action would not impact these areas. However, indirect beneficial impacts may occur due to withdrawal of lands in proximity to both wilderness areas. Management of wilderness and existing protections would continue as described in the 2003 RMP.
WILD-I	Wildlife (Aquatic)	The proposed action would not adversely impact any aquatic wildlife species. Withdrawal of public lands from location and entry under the US mining laws and from leasing under the mineral leasing laws would not result in changes to BLM management of the surface. Management of habitat for aquatic species and existing protections would continue as described in the 2003 RMP.
WTND-I	Wetlands/Riparian Zones	The proposed withdrawal would not impact any riparian and wetland zones within the area proposed for withdrawal. Decreased development would likely decrease any potential impacts on these zones by minimizing additional surface-disturbing activities that could promote movement of soils along drainages leading to riparian and wetland zones.
WR-I	Water Resources/Quality (Drinking, Surface, and Ground)	The proposed withdrawal could only limit (not increase) development of mineral resources. A reduction in potential mineral development may result in a reduction of water usage associated with such development. Beneficial effects on this resource would occur due to a relative decrease in mineral leasing and development activity within the boundary of the area proposed for withdrawal throughout the duration of the 20-year withdrawal period.
SOIL-I	Soils	The proposed action would not impact or disturb soils. The withdrawal of public lands from location and entry under the US mining laws and from leasing under the mineral leasing laws would not result in changes to BLM management of the surface. The soil resource protections would continue under current management as described in the 2003 RMP.
NIGHT-I	Night Skies	CCNHP is an International Dark Sky Park, and night sky resources are important to visitors who travel long distances to visit the area, which also includes the Bisti/De-Na-Zin and Ah-shi-sle-pah Wilderness Areas. The proposed action could have a beneficial impact on night skies. The reduction of flaring and artificial lighting from oil and gas development that would result from the withdrawal could decrease light pollution from glare and sky glow.

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Chapter 2. Proposed Action and Alternatives

2.1 NO ACTION ALTERNATIVE

Under this alternative, the Secretary of the Interior or the appropriate Department of the Interior official would not withdraw approximately 338,690 acres of public lands from location and entry under the US mining laws and leasing under the mineral leasing laws around the CCNHP; rather, the BLM would continue to follow management direction outlined in the 2003 RMP for these resources. Areas currently withdrawn and the extent of their withdrawal are illustrated in **Map 2-1** through **Map 2-3**.

2.2 PROPOSED ACTION

Under the proposed action, the Secretary of the Interior or the appropriate Department of the Interior official would withdraw approximately 338,690 acres of public land, which may consist of federal mineral estate within an approximate 10-mile distance from the CCNHP's boundaries, from location and entry under the General Mining Act of 1872 and the Mineral Leasing Act of 1920, for a 20-year term, subject to valid existing rights. The lands would not be withdrawn from disposal under the Materials Act of 1947. Legal descriptions of the parcels of public lands proposed for withdrawal are included in **Appendix A**.

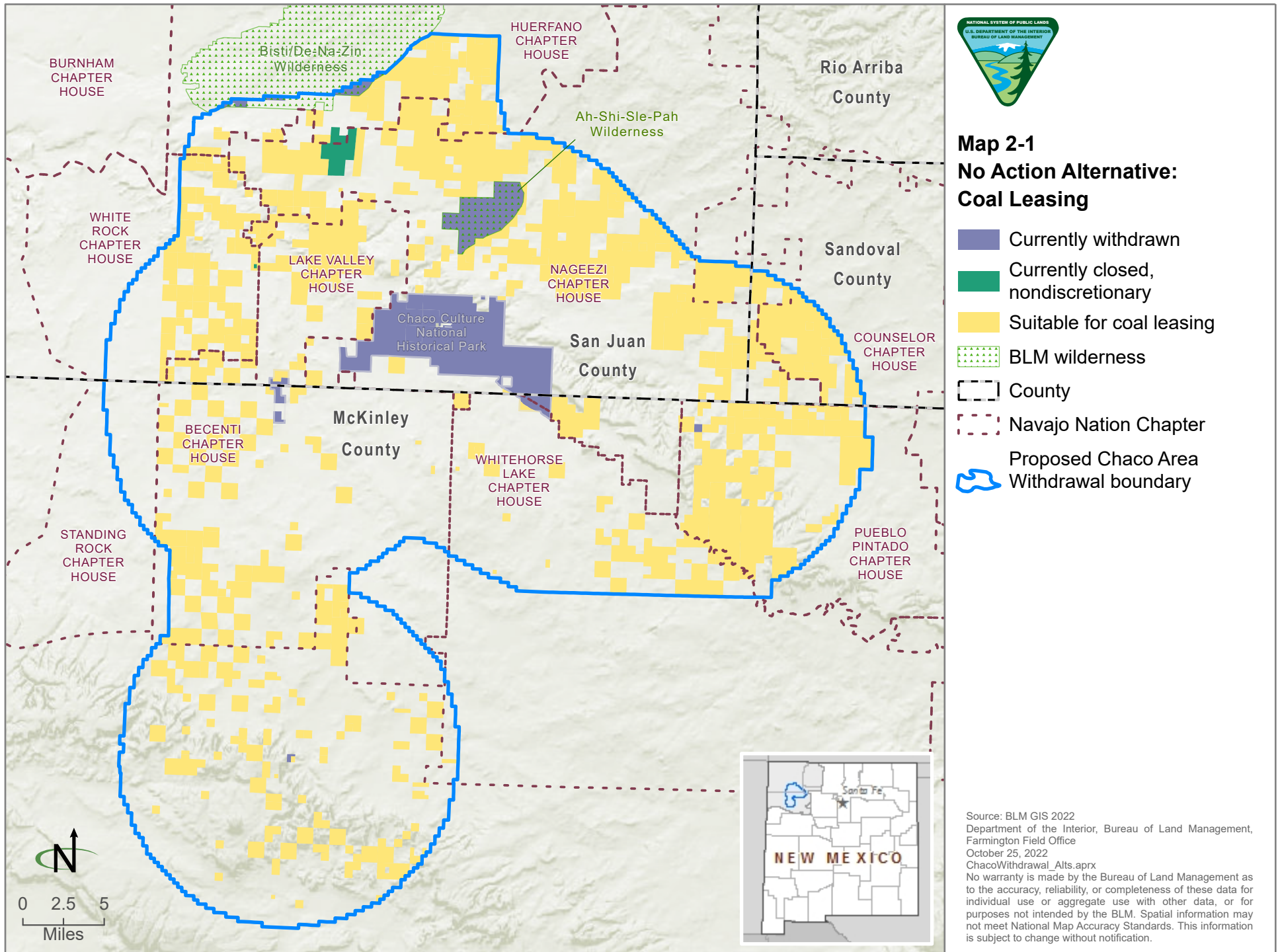
The proposed withdrawal would affect only public lands (that is, public land where the BLM manages both the surface and mineral estates as well as land where the BLM manages the federal mineral estate but where the surface may be managed by another federal agency or owned by another entity, such as the State of New Mexico, Indian and tribal entities, or private parties). Areas proposed for withdrawal are illustrated in **Map 2-4** through **Map 2-6**.

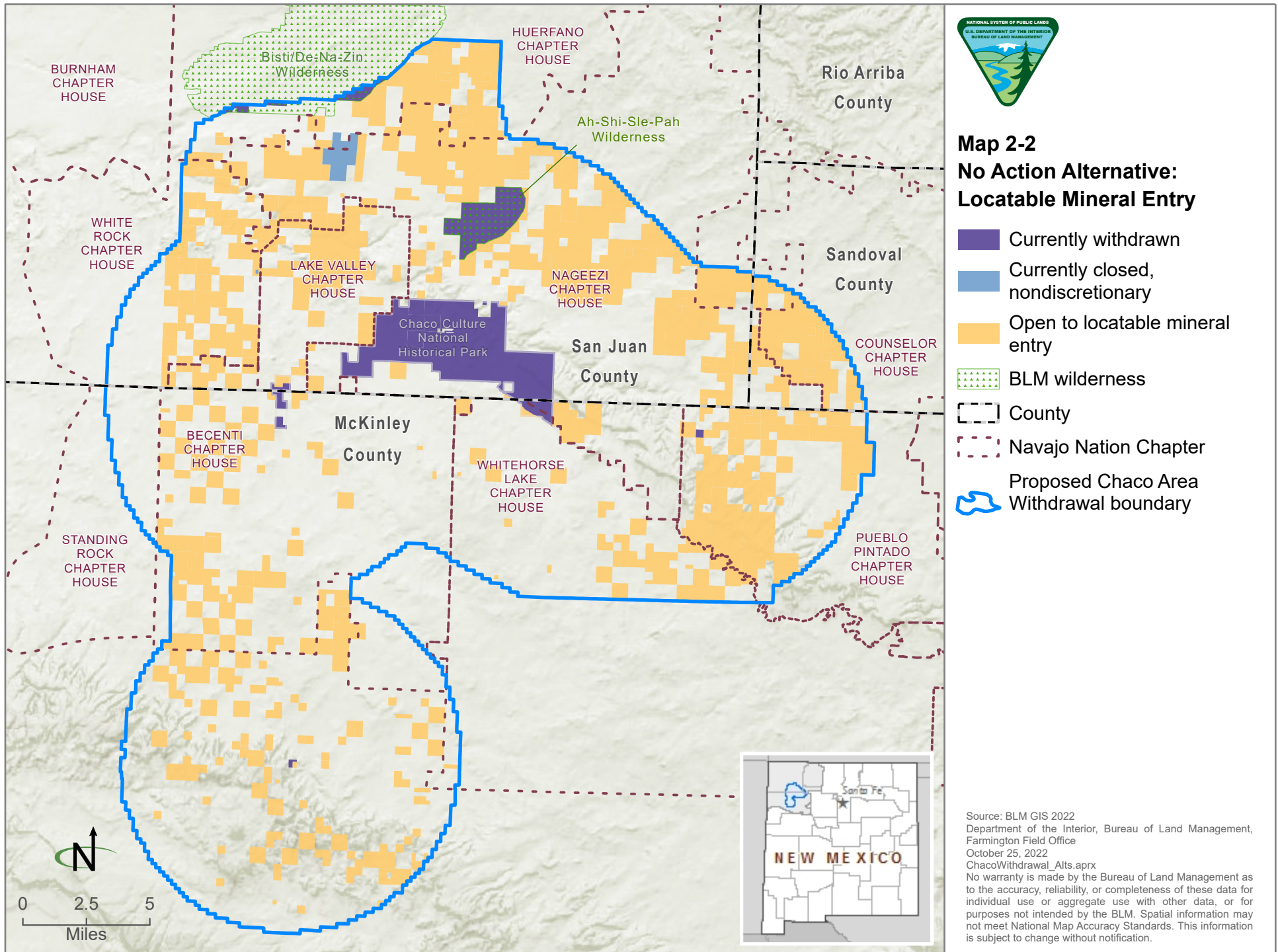
2.3 ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

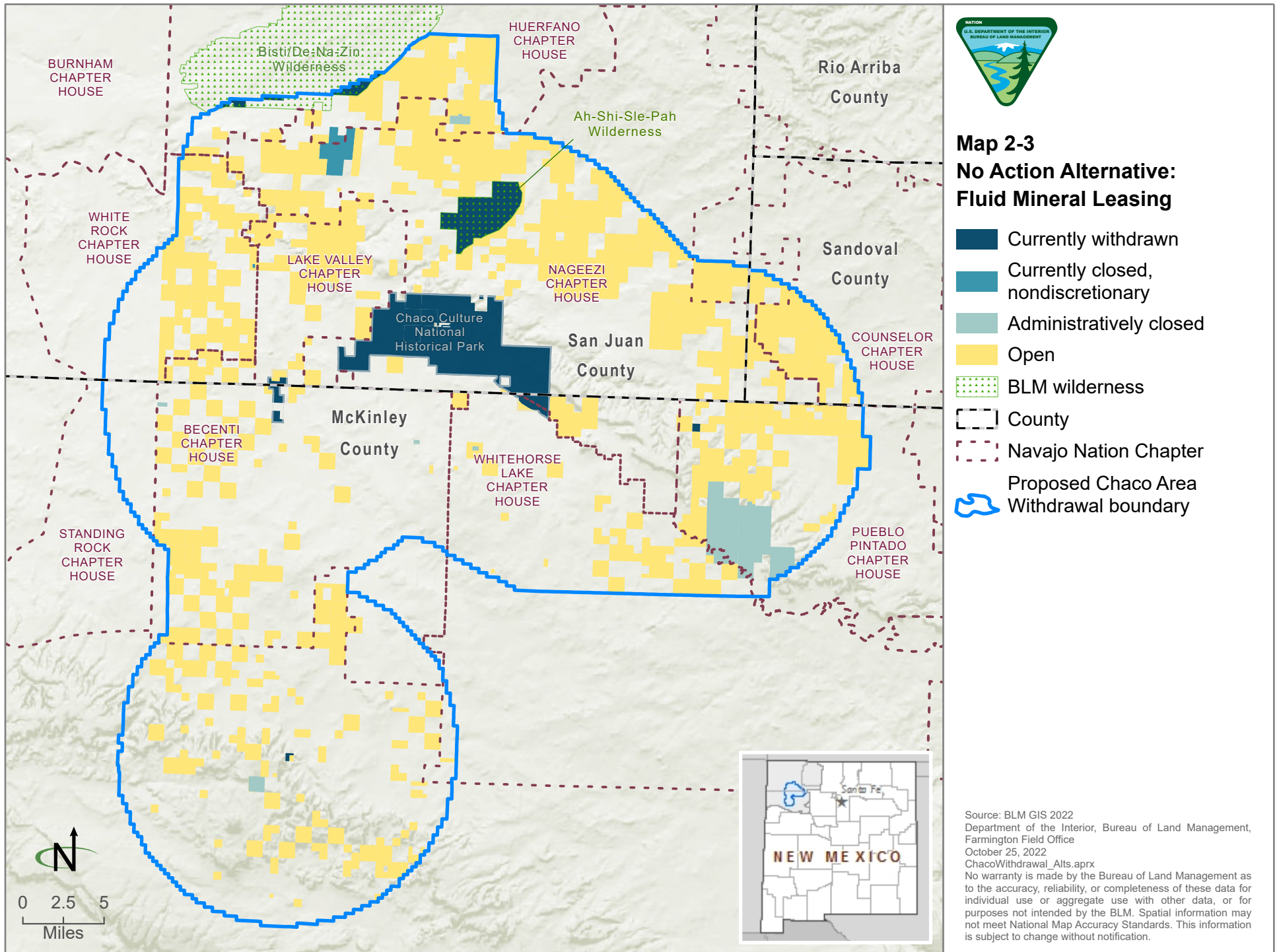
Sometimes alternatives are suggested or proposed that on examination do not adequately respond to the agency's purpose and need for action, they are technically or economically cost prohibitive, they are not suitable for consideration, they are remote or speculative, they are substantially similar in design to an existing alternative, they would have substantially similar effects as an existing alternative, or the authority does not exist for the agency to approve such actions. In such cases, these alternatives are usually eliminated from detailed analysis. Alternatives that were considered and eliminated from detailed analysis are listed below, along with the rationale for their elimination.

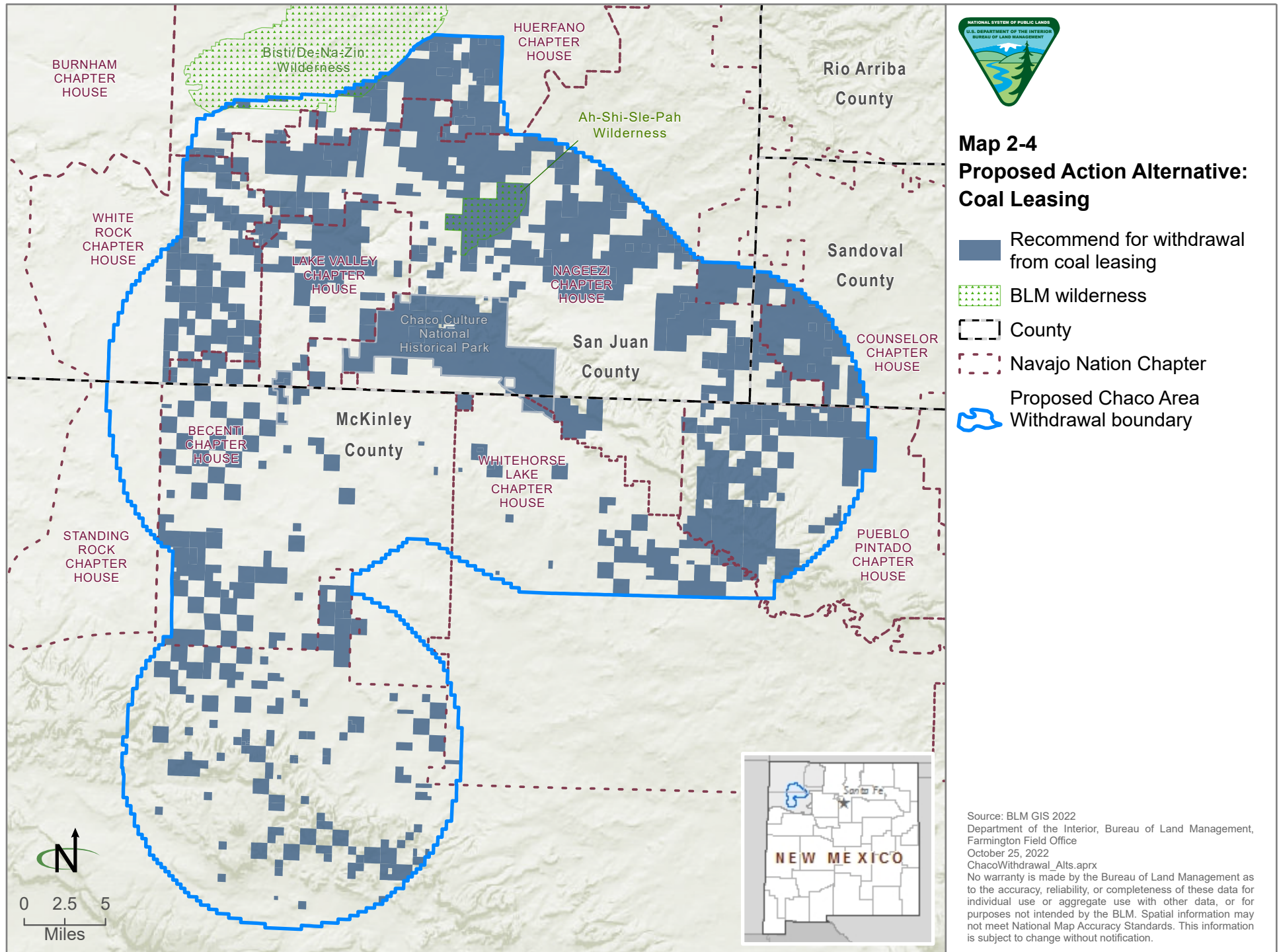
2.3.1 Permanently Withdraw the Lands from Disposition under Mineral Laws

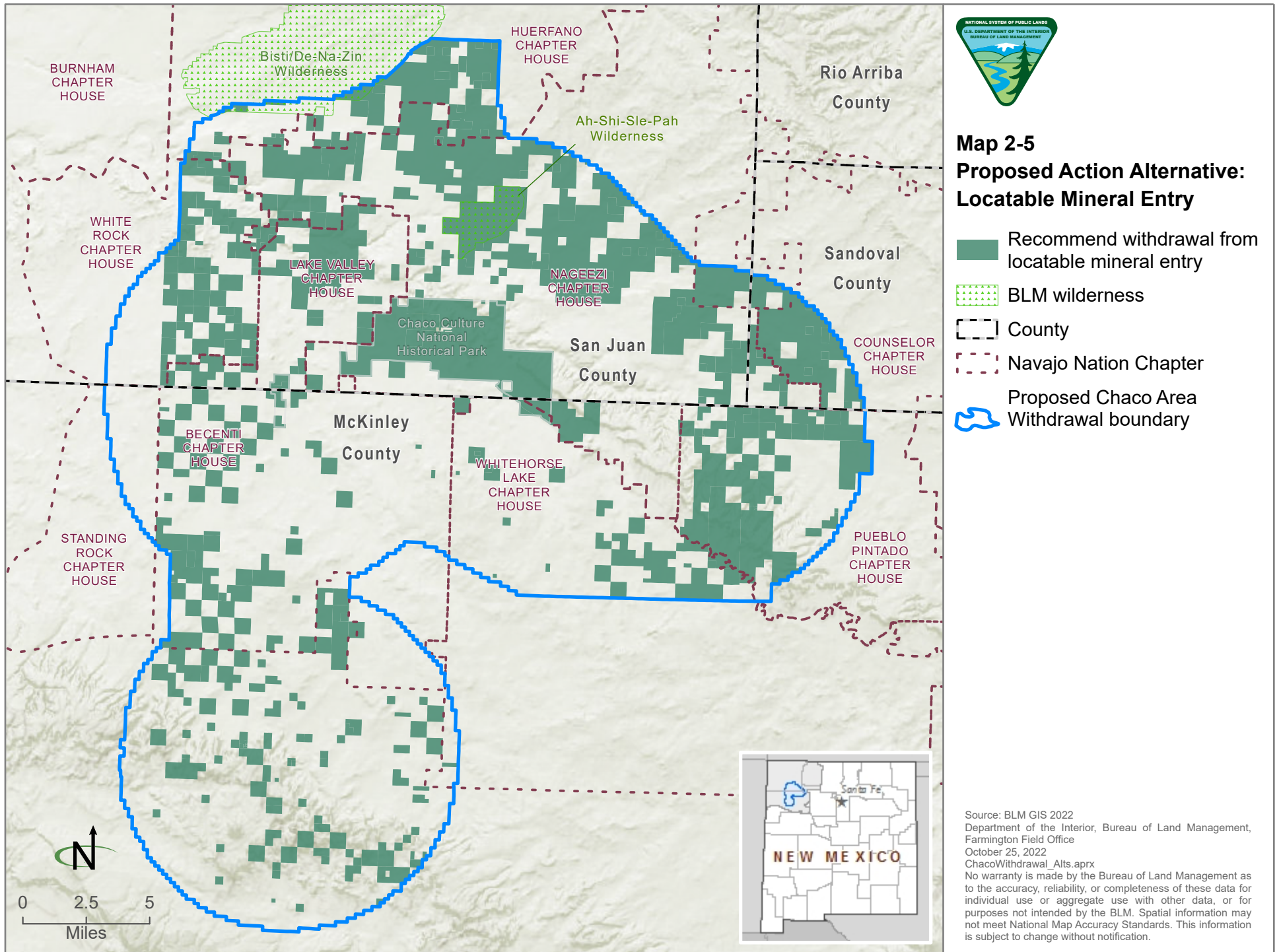
This alternative was eliminated from detailed analysis because a permanent withdrawal would require congressional action. The Secretary of the Interior does not have the authority to make a withdrawal that lasts for more than 20 years for areas aggregating more than 5,000 acres (FLPMA Section 204(c)). However, the Secretary of the Interior may extend withdrawals established under FLPMA if the purpose for the withdrawal warrants that the withdrawal remain in place.

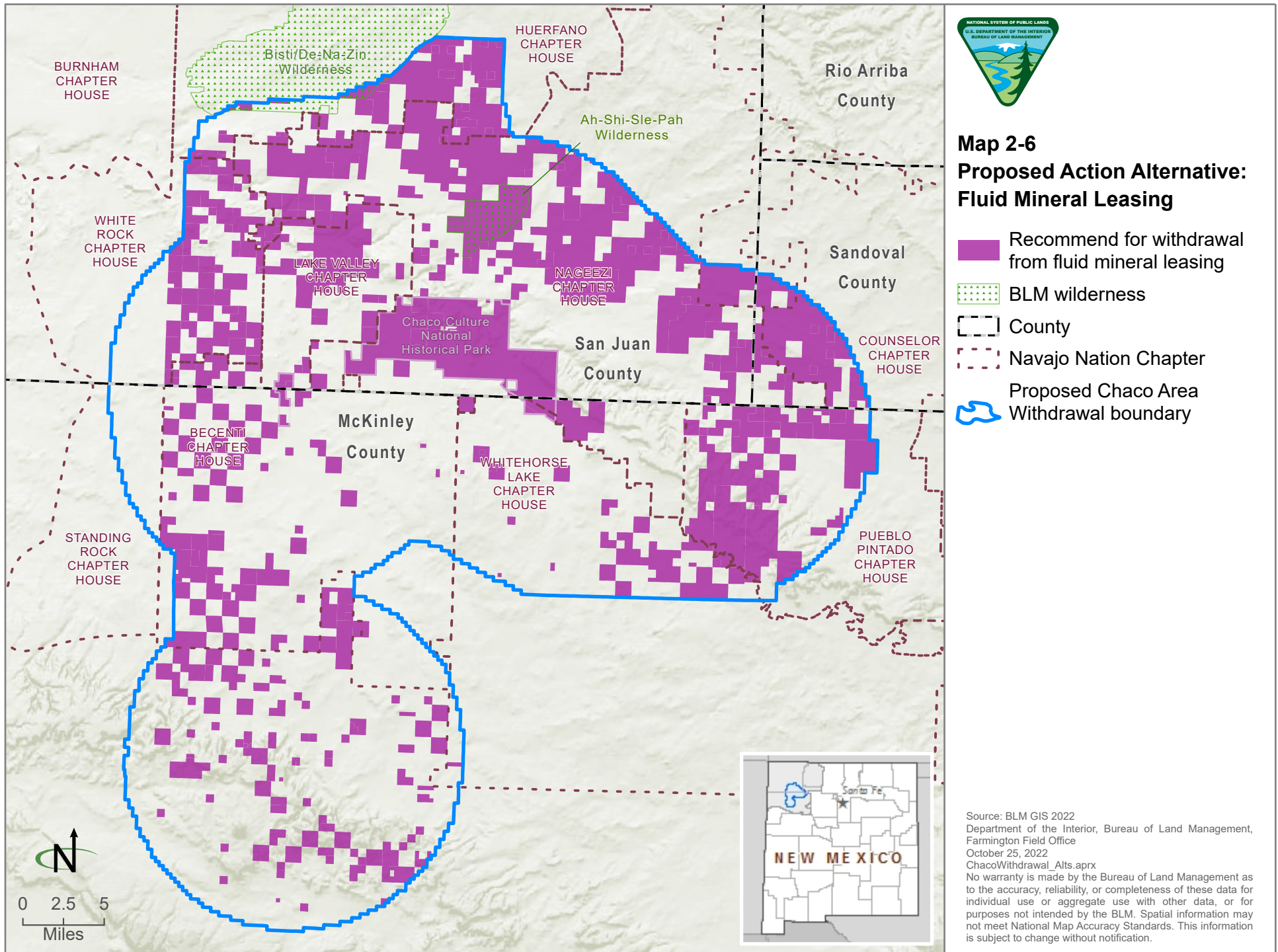












2.3.2 Withdraw the Lands from Disposition under Mineral Laws for Fewer than 20 Years

This alternative was eliminated from detailed analysis because a withdrawal for a shorter period is not substantially different from the proposed action. The Secretary of the Interior has the authority to approve a withdrawal that is within the existing range of alternatives analyzed in detail in this EA, including a withdrawal for fewer than 20 years.

2.3.3 Withdraw a Subset of the Withdrawal Application Area

This alternative was not analyzed in detail because a partial withdrawal is contained within the proposed action, and the decision-maker (the Secretary of the Interior) has the authority to approve or deny the proposed action in part or in whole based on this analysis. A decision may be made within the range of alternatives analyzed in detail, including a withdrawal for less than the entire area identified in the withdrawal application.

2.3.4 Expand the Withdrawal beyond the Proposed Withdrawal Area

In consideration of the BLM's multiple-use mission, the proposed action reflects a balance between the commitment to protecting special places and the responsible development of energy resources. A larger withdrawal area would not effectively meet this balance and was thus not analyzed in detail.

2.4 COMPARISON OF ALTERNATIVES

A summary of impacts associated with each alternative is provided in **Table 2-1**, below.

Table 2-1. Comparison of Alternatives

Issues	No Action	Proposed Action
Issue 1: How would the proposed withdrawal affect the availability of solid mineral resources (coal and uranium) within the proposed withdrawal boundary?	Existing conditions and trends in utilization of solid mineral resources would continue. No impacts would occur on the utilization of solid mineral resources under this alternative, and current land and resource uses would continue.	<p>The proposed withdrawal would result in the closure of the area to coal leasing. No coal leasing is anticipated in the area under either the No Action Alternative or the proposed action; therefore, the BLM does not anticipate any impacts on the level of coal leasing in the area proposed for withdrawal.</p> <p>The withdrawal of the area to location and entry under the US mining laws would prevent exploration for uranium resources; however, valid existing uranium claims in the area would not be impacted, and development of these claims could be pursued. The market conditions for uranium development are not favorable and are unlikely to improve over the 20-year withdrawal period.</p>

Issues	No Action	Proposed Action
Issue 2: How would the proposed withdrawal affect the availability of fluid mineral resources (oil and gas) within the proposed withdrawal boundary?	Absent a withdrawal, existing conditions and trends in the leasing development of fluid mineral resources would continue, consistent with the provisions of the applicable BLM RMP.	The proposed withdrawal from fluid mineral leasing would result in a decline in the level of federal fluid mineral leasing and production in the withdrawal area. Production and development would continue to occur on existing leases. The BLM anticipates that following cessation of leasing, approximately 47 fewer oil and gas wells would be drilled over the life of the withdrawal. As a result of the withdrawal, production would be reduced by approximately 4,134,746 barrels of oil and 75,188,327 thousand cubic feet (mcf) of natural gas over the 20-year withdrawal period.
Issue 3: How would the proposed withdrawal affect mineral revenue, local employment, and ecosystem services?	Natural gas and crude oil from new and existing leased parcels would be produced, and royalties would accrue to federal and state treasuries. Absent a withdrawal, oil and gas development opportunities would continue within the approximate 10-mile radius and would sustain or incrementally increase local and regional employment and revenue opportunities related to the oil, gas, and service support industries over time.	Under the proposed withdrawal, employment in mineral extraction-related occupations would experience a decline from the reduction of available opportunities for these industrial activities within the withdrawal area. The proposed withdrawal would result in an estimated 5.3 percent reduction in total employment in the mining sector within the four-county study area and reductions in gross receipts tax revenue from oil and gas production of approximately 11 percent. By reducing exploration activities as a source of noise and air emissions, the proposed withdrawal could have a positive impact on the Chaco region's scenic and cultural values, with accompanying benefits to the quality of experiences for recreational users.

Issues	No Action	Proposed Action
Issue 4: How would the proposed withdrawal from location and entry under the US mining laws and from leasing under the mineral leasing laws disproportionately affect EJ, such as Navajo Allottees?	<p>Existing conditions and trends in leasing and development of solid and fluid minerals and of exploration and development of minerals subject to location and entry under the US mining laws would continue.</p> <p>Continued employment in mining and mineral extraction-related industries would provide local and regional jobs and revenue on a sustained basis.</p> <p>Ongoing industrial development would potentially affect natural and cultural resources on BLM-administered public lands within the larger regional landscape, which is characterized by places of cultural significance, such as sites ancestral to both Navajo and Puebloan communities in northern New Mexico.</p> <p>Continued mineral development activities would contribute to increased air emissions, noise, and traffic from drilling and production operations. These activities could also detract from the area's setting and opportunities for unique recreational opportunities, such as night sky viewing.</p>	<p>Overall, the effects on EJ communities from the withdrawal of public land from federal mineral leasing adjacent to or under the subset of tribal lands not currently leased with high mineral potential would not be disproportionate by comparison with the effects of the withdrawal of public land from federal mineral leasing adjacent to or under non-tribal lands.</p> <p>Tribal census tracts with the highest potential for foreseeable oil and gas development and with federal acreage identified for withdrawal represent approximately 9 to 16 percent of the total withdrawal area for the BLM-administered lands.</p> <p>Although adjacent nonfederal lands and federal lands with existing leases would experience continued development, the proposed withdrawal could result in improvements to the visual setting of the area, including enhanced visibility for night sky viewing, decreased noise and traffic from drilling and production operations, and improved regional air quality.</p>

Note: Information and analyses for the "No Action" and "Proposed Action" columns are provided in **Chapter 3** and **Chapter 4**, respectively.

Chapter 3. Affected Environment and Environmental Effects

3.1 INTRODUCTION

Chapter 3 contains the effects analysis related to the issues. **Section 3.2** describes the effects of the No Action Alternative for all issues. **Section 3.3** presents an overview of the affected environment (that is, the reasonably foreseeable environmental trends and planned actions in the area to be affected by the proposed action; 40 CFR 1502.15). **Chapter 4** presents the issues that are analyzed in detail.

3.2 NO ACTION ALTERNATIVE FOR ALL ISSUES

Under the No Action Alternative, the Secretary of the Interior or the appropriate Department of the Interior official would not withdraw approximately 338,690 acres of public lands from location and entry under the US mining laws and from leasing under the mineral leasing laws around the CCNHP; rather, the BLM would continue to manage the public land (including federal minerals) as outlined in the 2003 RMP. Absent such a withdrawal, existing conditions and trends related to each issue would continue. Exploration, location, and entry under the US mining laws could continue, and the BLM would continue to manage the leasing and development of solid and fluid minerals under the applicable mineral leasing laws. The impacts on all resources from continued oil and gas development would be as described in the 2003 RMP.

Natural gas and crude oil from new and existing leased parcels could be produced, and any royalties would accrue to federal and state treasuries. Continued oil and gas development opportunities within the approximate 10-mile radius could sustain or incrementally increase local and regional employment and revenue opportunities related to the oil, gas, and service support industries over time. This is because the oil and gas sector of the economy relies on both ongoing operational activities (development of existing leases) and new development opportunities (acquisition and development of new leases and reinstatement of terminated leases) to continue to provide local and regional jobs and revenue on a sustained basis.

Ongoing industrial development would potentially affect natural and cultural resources on public lands within the larger regional landscape, which is characterized by places of cultural significance, such as sites ancestral to both Navajo and Puebloan communities in northern New Mexico. Continued mineral development activities would contribute to increased air emissions, noise sources, and traffic from exploration and production operations. The activities also could detract from the area's setting and unique recreational opportunities.

3.3 REASONABLY FORESEEABLE ENVIRONMENTAL TRENDS AND PLANNED ACTIONS

The area that could be affected by the proposed withdrawal is the New Mexico portion of the San Juan Basin, which is the dominant feature of the Mancos-Gallup planning area used to develop the Mancos-Gallup RFDS (BLM 2018). This analysis employs the Mancos-Gallup RFDS to support the evaluation of the reasonably foreseeable environmental trends and planned actions in the area that would be affected by the proposed withdrawal, consistent with Council on Environmental Quality (CEQ) regulations defining the affected environment (40 CFR 1502.15). The area includes 4.2 million total acres of all mineral ownership types in portions of San Juan, Rio Arriba, Sandoval, and McKinley Counties (BLM 2018). Federal oil and gas minerals in the area cover 2.1 million acres, primarily in the FFO's boundaries but also in a

small area of the Rio Puerco Field Office in northwestern Sandoval County, where most of the previous oil and gas development has taken place (BLM 2003; BLM 2018).

The San Juan Basin has been a producing oil and natural gas field since the early to mid-1900s. It is characterized by overlapping uses for oil and gas, grazing, and dispersed recreation. The Mancos-Gallup RFDS (BLM 2018) estimates existing long-term surface disturbance across the Mancos-Gallup planning area from oil and gas development to be 56,500 acres (from 37,300 wells). Other uses focus on specific locations and include coal mining, electric power generation, agriculture, and urban development, including the communities of Farmington, Aztec, Bloomfield, Blanco, Kirtland, Gobernador, Nageezi, Lindrieth, and Counselor. There are 10,500 acres of active coal mines in the Mancos-Gallup planning area.

The following reasonably foreseeable environmental trends and planned actions are considered in this effects analysis scenario:

- **Oil and gas:** The Mancos-Gallup RFDS (BLM 2018) projects 3,200 new oil and gas wells within the San Juan Basin in the next 15 years (2022–2037); the majority of these (2,300) are predicted to be horizontally drilled. New surface disturbance from potential wells in this scenario is estimated at approximately 18,500 acres. New surface disturbance was estimated at 6.85 acres per well for future horizontal wells (twinned) and 4.35 acres per well for future vertical wells (BLM 2018).
- **Urban expansion:** Future expansion is expected in Farmington, Aztec, and Bloomfield, including development for roads, utilities, and communication lines.
- **Infrastructure expansion and Navajo Nation lands:** Future expansion of utilities, public spaces, roads, and residential areas is expected within Navajo Nation lands.
- **Energy generation:** Reclamation activities at the La Plata coal mine (1,650 acres) were completed in 2009, and reclamation activities at the San Juan coal mine (2,700 acres) are currently ongoing (BHP Billiton 2009). No additional coal leases are expected to be issued for the La Plata or San Juan mines.

Table 3-1 presents a summary of quantifiable surface disturbances associated with past, present, and reasonably foreseeable future activities in the New Mexico portion of the San Juan Basin. In total, the BLM assumes approximately 5,000 acres would be disturbed for reasonably foreseeable future activities not related to oil and gas development.

Table 3-1. Past, Present, and Reasonably Foreseeable Future Estimated Landscape Disturbance in the Analysis Area

Analysis Area	—	Acreage
Mancos-Gallup planning area (portions of San Juan, Rio Arriba, McKinley, and Sandoval Counties)	—	4,200,000
Disturbance Sources	Number of Wells	Acreage
Past and present oil and gas development	37,300	56,500
Past and present other development	Not quantified	74,500 ¹
Reasonably foreseeable future oil and gas development (BLM 2018)	3,200	18,500
Roads, transmission lines, and urban expansion	Not quantified	5,000
Total	40,500	154,500

¹ This number is likely an underestimate of total non-oil- and gas-related disturbance in the analysis area. No study calculating existing disturbance for the analysis area was available at the time of writing.

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Chapter 4. Issues Analyzed in Detail

4.1 RESOURCE ISSUE 1: HOW WOULD THE PROPOSED WITHDRAWAL AFFECT THE AVAILABILITY OF SOLID MINERAL RESOURCES (COAL AND URANIUM) WITHIN THE PROPOSED WITHDRAWAL BOUNDARY?

4.1.1 Affected Environment

For more information on the mineral potential in the area proposed for withdrawal, see the Mineral Resource Potential Bureau of Land Management Lands and Minerals Selected Chaco Area Mineral Withdrawal, San Juan and McKinley County, New Mexico report (BLM 2022).

Coal

The area proposed for withdrawal is intersected by parts of the Bisti Coal Field, Star Lake Coal Field, and Crownpoint Coal Field. There are no active mines in the proposed withdrawal area. The nearest active coal mine is the El Segundo Mine located outside the withdrawal area, east of the town of Crownpoint. This operation is mining coal from the Cleary member of the Menefee Formation (Peabody Natural Resources Company 2019). The results of the coal unsuitability criteria conducted as part of the Farmington RMP (BLM 2003) found that in the proposed withdrawal area, approximately 294,670 acres of federal minerals were suitable for coal leasing, 41,190 acres were unsuitable for leasing, and 2,830 acres were subject to an existing withdrawal. However, absent a withdrawal, a coal lease could be issued; coal unsuitability criteria would need to be reapplied, and suitability results could change.

In the proposed withdrawal area, there are currently zero acres of issued federal coal leases. There were coal preference right lease applications within the proposed withdrawal area that covered approximately 38,260 acres of federal mineral estate. The preference right lease applications are all closed, rejected, or transferred, and are no longer considered valid existing rights. Several federal coal leases that were issued, comprising approximately 7,740 acres within the proposed withdrawal area, have since been closed, relinquished, or transferred; they are no longer considered valid existing rights.

A detailed examination of past leases in the area was conducted as part of the Mineral Resource Report (BLM 2022). Demand for coal in the United States has been decreasing due to price competition from natural gas and changes to regulations of emissions from coal power generation. The BLM does not anticipate that any new coal operations would open in the proposed withdrawal area over the next 20 years.

Uranium

The Grants uranium district, located along the southern margin of the San Juan Basin in Cibola, McKinley, Sandoval, and Bernalillo Counties as well as on tribal lands, was once one of the largest producers of uranium in the country (EPA 2022). Parts of the Nose Rock, Chaco Canyon Church Rock-Crownpoint, Smith Lake, and Ambrosia Lake subdistricts of the Grants mineral belt are within the proposed withdrawal boundary. Currently, there are no producing uranium mines in the Grants uranium district; however, several mines are still undergoing decommissioning and reclamation (NMMMD 2022). Approximately 409 million pounds of uranium resources that were never mined remain in the Grants district, as identified by companies in the 1980s and in recent exploration (McLemore 2020).

No uranium production has occurred in New Mexico since 2002 (McLemore et al. 2016). Records indicate that uranium exploration has occurred in New Mexico as recently as 2017, but the locations of most recent exploration and interest are southeast and southwest of the proposed withdrawal area (NMMMD 2022). Uranium mining is highly dependent on the price of uranium, and existing sources in other states and foreign countries can be profitably mined at a lower cost than the New Mexico deposits (EIA 2020). Within the proposed withdrawal area, approximately 2,820 acres of federal minerals are currently withdrawn from entry for uranium or other locatable mineral development.

The Crownpoint in situ recovery project proponent proposes to extract uranium using in situ leaching techniques from several locations, including inside the proposed withdrawal area; extraction would occur from both private and federal minerals (Hydro Resources 2013). The project is currently undergoing permitting and licensing (World Nuclear Association 2021). There are 129 unpatented uranium mining claim(s) encompassing approximately 2,700 acres within the proposed withdrawal area. However, 19 of those claims are filed for areas without federal ownership or uranium mineral estate; this means some of the claims may not be valid.

4.1.2 Environmental Consequences

The proposed withdrawal would remove approximately 338,690 acres of federal mineral estate from location and entry during a 20-year period. The withdrawal would not affect existing valid leases or claims, and would not apply to minerals owned by private, state, or tribal entities.

Coal

Over the short term, during the 20-year withdrawal period, the proposed withdrawal would prevent exploration and characterization of federal coal resources within the withdrawal area. The proposed withdrawal also would prevent the development and recovery of federal coal resources within the withdrawal area. While the area proposed for withdrawal has known deposits of federal coal, no data on existing conditions support the assumption that the development of any federal coal deposits not already leased would be reasonably foreseeable within the 20-year proposed withdrawal period. Existing federal coal mines and leases in the surrounding area outside the withdrawal, and nonfederal coal resources in the area, are expected to be adequate to meet any local demand for coal. Therefore, the proposed withdrawal would not reduce the amount of future coal activity and development in the withdrawal area; no development of federal coal resources within the proposed withdrawal area is likely to occur regardless of whether the land is withdrawn.

Uranium

Over the short term, during the 20-year withdrawal period, the proposed withdrawal would prevent exploration and characterization of most uranium resources within the withdrawal area. The proposed withdrawal also would prevent the development and recovery of uranium resources from federal mineral estate within the withdrawal area. While the proposed withdrawal area has known deposits of uranium on federal minerals, given the typical time line required to locate and record a claim, acquire permits, and bring online a uranium development, it is safe to assume that no production of any uranium on claims that are not already staked would be reasonably foreseeable within the 20-year proposed withdrawal period.

There are currently no uranium producers operating locally, and uranium production in the United States has been declining since 2014. At the end of 2021, only two uranium recovery operations in the United States were producing, and nine were on standby (EIA 2022). Other countries have more accessible, high-

quality uranium deposits, allowing them to produce at a lower cost than the United States (EIA 2020). As a result, any increases in future demand are likely to be met by foreign sources and resumption of production at existing facilities currently on standby, rather than by the costly construction of new facilities. Because of these factors, the development of any uranium claims within the proposed withdrawal area is unlikely within the next 20 years.

If the Secretary of the Interior or the appropriate Department of the Interior official withdraws the public land as proposed (and assuming no lapse between the segregation period initiated by the notice of proposed withdrawal and issue of a public land order withdrawing the land), uranium claims that were located before the date of segregation could only be developed after a validity examination process has been completed under 43 CFR 3809.100. The validity examination process may take several years, and operators must pay a processing fee to cover the costs of the examination, which can cost \$100,000 or more, depending on the complexity of the examination. This additional cost and process make it less foreseeable that a uranium producer would seek to develop on federal mineral estate within the proposed withdrawal area under the proposed action. As a result, effects of the proposed withdrawal on uranium mineral resource development could be long term, extending beyond the 20-year withdrawal period.

4.2 RESOURCE ISSUE 2: HOW WOULD THE PROPOSED WITHDRAWAL AFFECT THE AVAILABILITY OF FLUID MINERAL RESOURCES (OIL AND GAS) WITHIN THE PROPOSED WITHDRAWAL BOUNDARY?

4.2.1 Affected Environment

According to the 2018 RFDS, future oil and gas activity in the region would be primarily horizontal drilling for oil in the Mancos-Gallup play, with minor development targeted at natural gas production. Other development could include drilling for conventional oil and gas accumulations and development of coalbed methane (BLM 2018). For more information on the mineral potential in the proposed withdrawal boundary, see the Mineral Resource Potential Bureau of Land Management Lands and Minerals Selected Chaco Area Mineral Withdrawal, San Juan and McKinley County, New Mexico report (BLM 2022).

Recent development has focused on areas of the Mancos and Gallup Formations, where shales and thin sands were deposited in an offshore environment, referred to as “offshore Mancos-Gallup reservoirs” in some assessment documents (Broadhead 2013). These reservoirs are northeast of the proposed withdrawal area (see Figure 6 in Engler et al. 2015) and partially overlap the proposed withdrawal area.

In the 2018 RFDS, an area surrounding the town of Nageezi and extending into the proposed withdrawal area was given a development potential ranking of high, defined as 10 or more wells per township likely to be drilled over the next 20 years (BLM 2018; see Figure 10). The document also shows that several wells have been drilled in the proposed withdrawal area since 2008. Most of these wells were vertical or directional, but some were horizontal (BLM 2018; see Figure 4).

Within or partially within the proposed withdrawal area, there are 80 existing oil and gas leases encompassing approximately 94,500 acres of federal mineral estate; approximately 71,900 acres of those leases lie within the proposed withdrawal area. As of August 2, 2022, 78 of these leases are held by production (meaning there is one or more economically producing well on the lease, so the lease can continue to produce and remains valid beyond its primary term). Two leases, which total approximately 800 acres, are not held by production. These leases expire on March 31, 2023, and November 30, 2023;

if one or more economically producing wells have not been developed on a lease by the expiration date, the lease can be withdrawn at that time.

Table 4-1, below, shows the development potential assigned by the 2018 RFDS (BLM 2018), with the current lease status of each development potential rank.

Table 4-1. Development Potential Rating and Lease Status of the Proposed Withdrawal Area

Development Potential Rating and Lease Status	Acres
High Development Potential Total	20,050
<i>Unleased</i>	3,120
<i>Leased—held by production</i>	16,770
<i>Leased—not held by production</i>	160
Medium Development Potential Total	93,630
<i>Unleased</i>	40,450
<i>Leased—held by production</i>	53,180
<i>Leased—not held by production</i>	0
Low Development Potential Total	67,970
<i>Unleased</i>	67,970
<i>Leased—held by production</i>	0
<i>Leased—not held by production</i>	0
Negligible Development Potential Total	157,370
<i>Unleased</i>	155,620
<i>Leased—held by production</i>	1,110
<i>Leased—not held by production</i>	640

Sources: BLM GIS 2022; BLM 2018

*Acres are calculated using GIS and rounded to the nearest 10 acres. As a result, minor rounding errors may occur, and totals may not equal official acreages.

4.2.2 Environmental Consequences

As shown in **Table 4-2**, below, under the proposed action, the Secretary of the Interior or appropriate Department of the Interior official would withdraw approximately 338,690 acres of public land (including federal mineral estate), in addition to the 44,020 acres already withdrawn or under nondiscretionary closure, from location and entry under the US mining laws and from leasing under the mineral leasing laws during a 20-year period, subject to valid existing rights. The table shows the acreages for the proposed action and the No Action Alternative.

Table 4-2. Fluid Mineral Allocation by Alternative

Fluid Mineral Allocation	No Action Alternative (Acres)	Proposed Action (Acres)
Open to leasing	281,190	0
Closed to leasing	13,480	0
Withdrawn	44,020	338,690

Source: BLM GIS 2022

The withdrawal would not affect existing valid leases, including the approximately 71,900 acres of existing federal oil and gas leases within the proposed withdrawal area. The withdrawal also would not apply to minerals owned by private, state, or tribal entities. Existing leases not held by production could be

developed, relinquished by the lessee, or expire if not developed within the lease term. During any period of withdrawal of land from the mineral leasing laws, expired or relinquished leases simply terminate, and the parcels cannot be leased again. During the 20-year withdrawal period, production from existing wells could continue, and additional wells could and would likely be drilled on existing leases.

As shown in **Table 4-1**, above, much of the high and medium development potential areas are already under lease. Over the long term, the development of federal oil and gas in the withdrawal area under the proposed action is likely to be reduced compared with the level of development within the area under the No Action Alternative. However, it is difficult to quantify the extent of the reduction in federal oil and gas production under a withdrawal. Quantification would depend on several factors, including the level of demand, oil price, technological advancements in extraction technology, and the amount of additional development occurring on existing leases. The best available estimate of projected oil and gas development is provided in the 2018 RFDS, which estimates 3,200 new oil and gas wells (2,300 horizontal and 900 vertical or directional) for the period from 2018 to 2037 in the Mancos-Gallup RMPA planning area (BLM 2018).

The proposed Chaco withdrawal boundary is mostly within, but considerably smaller than, the area considered in the 2018 RFDS. The 2018 RFDS also provided a development potential rating for the entire FFO, including the entirety of the Chaco proposed withdrawal area. Based on the development potential data provided in the 2018 RFDS, estimates of oil and gas development within the proposed withdrawal under the No Action Alternative and proposed action were developed. Within the proposed withdrawal area, the BLM estimates that a total of 93 new oil and gas wells (66 horizontal and 27 vertical or directional) would be drilled over the next 20 years on currently leased and unleased minerals under the No Action Alternative. If the withdrawal were to occur, it is estimated that the development of a total of 47 new wells (approximately 20 horizontal and 27 vertical or directional) would be foregone because of the proposed withdrawal over the next 20 years.

Based on production estimates in the 2018 RFDS (BLM 2018), the BLM estimates that the potential development of 206,737 barrels of oil per year and 3,759,416 mcf of natural gas per year would be foregone due to the reduction in wells resulting from the withdrawal. Over the 20-year proposed withdrawal period, this would result in a total of 4,134,746 barrels of oil and 75,188,327 mcf of natural gas not produced because of the proposed withdrawal. Over the last 4 years, production in the San Juan Basin has averaged 756,522,248 mcf per year of natural gas and 8,130,202 barrels per year of oil. If approved, the withdrawal would result in an approximate 0.5 percent reduction in annual gas production and an approximate 2.5 percent reduction in annual oil production in the San Juan Basin.

The continued development of private, state, and tribal fee mineral estate leases adjacent to parcels subject to the proposed withdrawal could result in drainage of federal oil and gas resources from any withdrawn parcels. Drainage of federal oil and gas resources from withdrawn parcels constitutes a permanent loss of potential future royalty receipts to the federal government. The BLM is not able to quantify this possible drainage, as the amount of drainage that may occur depends on reservoir characteristics, operation design, and the locations and intensity of development on adjacent minerals within the area proposed for withdrawal. Drainage of federal oil and gas resources may be subject to compensation agreements under 43 CFR 3100.2-1.

4.3 RESOURCE ISSUE 3: HOW WOULD THE PROPOSED WITHDRAWAL AFFECT MINERAL REVENUE, LOCAL EMPLOYMENT, AND ECOSYSTEM SERVICES?

4.3.1 Affected Environment

The area of analysis for socioeconomics is the four-county area that encompasses McKinley, Rio Arriba, Sandoval, and San Juan Counties.

Local Employment in Mineral Extraction-based Industries

Mining's share (including oil and natural gas) of overall employment in New Mexico was about 2.6 percent in 2020 (19,994 New Mexico workers). The four-county area has a history of oil and gas development, and the ties with this industry are most notable in San Juan County, which has levels of employment in the mining industry (9.0 percent) that are well above state levels (2.6 percent; see **Table 4-3**). Average annual wages in this industry are also highest in San Juan County (\$78,171; see **Table 4-4**). Rio Arriba County has the second-highest natural resources and mining-related wages (\$65,131).

Table 4-3. Employment in Mining 2020

Employment Type	McKinley County	Rio Arriba County	Sandoval County (Includes Rio Rancho)	San Juan County	New Mexico
Total employment	19,445	9,240	29,535	42,128	781,771
Mining	26	137	99	3,785	19,994
Oil and gas	14	108*	8	3,118	16,345
Extraction	0	70*	0	1,078	4,254
Drilling	0	0	0	173	2,060
Support	14	38*	8	1,867	10,031
Coal mining	0	0	0	493*	844*
Metal ore mining	0*	0	0	0	1,239*
Nonmetal mineral mines	10*	26	92	162*	1,608
Mining related	80*	24*	10*	970	3,894
Oil and gas pipeline	68*	24*	0	951	3,224
Pipeline transportation	12*	0	10*	19	670
Percentage of total employment					
Mining	0.1%	1.5%	0.3%	9.0%	2.6%
Oil and gas	0.1%	1.2%	<0.01%	7.4%	2.1%
Extraction	—	0.8%	—	2.6%	0.5%
Drilling	—	—	—	0.4%	0.3%
Support	0.1%	0.4%	<0.01%	4.4%	1.3%
Coal mining	—	—	—	1.2%	0.1%
Metal ore mining	—	—	—	—	0.2%
Nonmetal mineral mines	0.1%	0.3%	0.3%	0.4%	0.2%
Mining related	0.4%	0.3%	<0.01%	2.3%	0.5%
Oil and gas pipeline	0.3%	0.3%	—	2.3%	0.4%
Pipeline transportation	0.1%	—	<0.01%	<0.01%	0.1%

Source: County Business Patterns, as reported in Headwater Economics 2020

*Estimates for data that were not disclosed

Notes: Data represent the number of part- or full-time employees and the percentage of total employment.

Data are not available for Tribal Nations or Navajo Nation chapters.

Employment estimates may vary from the official labor force data released by the Bureau of Labor Statistics because of differences in survey design and data collection.

Table 4-4. Average Annual Wages by Industry in 2020 Dollars

Industry	McKinley County	Rio Arriba County	Sandoval County	San Juan County	New Mexico
All sectors, private	\$32,539	\$40,641	\$48,162	\$46,335	\$48,717
Services	\$29,322	\$39,135	\$37,627	\$39,672	\$46,676
Trade, transportation, utilities	\$34,106	\$30,164	\$37,609	\$45,377	\$41,086
Information	\$35,779	\$42,476	\$64,449	\$40,720	\$62,393
Financial activities	\$36,905	\$40,456	\$49,652	\$47,253	\$62,343
Professional and business	\$29,036	\$68,555	\$47,441	\$40,977	\$69,938
Education and health	\$32,203	\$53,230	\$38,437	\$44,537	\$45,191
Leisure and hospitality	\$15,868	\$19,618	\$17,530	\$17,160	\$19,988
Other services	\$29,370	\$35,101	\$41,051	\$39,230	\$38,699
Non-services	\$60,369	\$51,273	\$85,067	\$66,094	\$28,379
Natural resources and mining (including oil and gas)	\$60,417	\$65,131	\$47,668	\$78,171	\$65,885
Construction	\$38,055	\$49,992	\$52,308	\$55,578	\$53,439
Manufacturing	\$80,970	\$34,281	\$103,492	\$48,602	\$58,794

Source: BLS 2020

Note: Data are not available for Tribal Nations or Navajo Nation chapters.

Mineral Revenues

The Department of the Interior, through the Office of Natural Resources Revenue, collects a set percentage of the sales value of federal oil, natural gas, and coal—known as a royalty. In August 2022, Congress passed House Resolution (H.R.) 5376—Inflation Reduction Act of 2022 (the IRA), which updated federal oil and gas leasing terms, including the royalty rate, rental rate, and minimum bonus bid rate. The IRA increased federal royalty rates for oil and natural gas leases from 12.5 percent to 16.66 percent (H.R. 5376 2022).

Federal royalties for coal remain at the previously set rate of 12.5 percent for surface coal and 8 percent for coal extracted from underground mines. Leaseholders can competitively bid, pay an initial bonus (that is higher than the minimum bonus bids), and subsequently pay rent for the right to develop the resources on public lands (the IRA eliminated the option for noncompetitive lease sales). The IRA increased the annual rental rates for new competitive oil and gas leases from \$1.50 per acre (or fraction thereof) in the first 5 years and \$2 per acre each year thereafter to \$3 per acre for the first 2 years, \$5 per acre for years 3 through 8, and \$15 per acre for years 9 and 10. After 10 years, those set rental rates will be the minimum (H.R. 5376 2022). Federal coal leases require payment of an annual rental fee of not less than \$3 per acre or fraction thereof. The IRA also increased the minimum bonus bid from \$2 per acre to \$10 per acre for 10 years; after 10 years, \$10 per acre is the statutory minimum. New applications for permits to drill (APD) also involve filing fees. These fees increase annually. Currently, every new APD beginning October 1, 2022, must include a non-refundable filing fee of \$11,805.

Other revenues that are not included in the royalty, rent, or bonus categories include minimum royalties, estimated royalties, settlement agreements, and expression of interest fees. Approximately 50 percent of revenues go to the US Treasury and 49 percent of federal mineral revenues are transferred to the state treasurer. The portion of revenue allocated to the state, in turn, is distributed to counties, cities, and school districts based on Senate Bill 08-218. Lease revenues and royalties to the state and county provide an additional economic contribution from mineral resource extraction. Since the 1950s, mining, especially of coal and uranium, has also provided significant income, particularly on tribal lands.

Future disbursements of mineral revenues will continue to be influenced by conditions in the oil market. As spot prices for oil crashed in the spring 2020, with futures going negative for the first time in history, royalties generated on federal minerals plummeted. Unfavorable market conditions also negatively affected producers' profitability. This may reduce many firms' ability and interest in the additional outlay of costs to lease and develop federal minerals. Past oil busts have caused many producers to sell, plug, and abandon assets, which can also reduce rental payments and royalties. A declining collection of federal mineral rents, royalties, and bonus bids will cause future disbursements to decline, at least over the short term. Since state and local minerals revenues are based on the market value of production, tax revenues fluctuate with commodity prices. **Table 4-5**, below, provides the annual gross receipts for all taxes collected at the county level and the percentage attributable to oil and gas-related revenues.

Table 4-5. Study Area Gross Receipts Tax Revenue, 2016–2020

Year	McKinley County		Rio Arriba County		Sandoval County (Includes Rio Rancho)		San Juan County	
	Revenue (\$)	Percentage of Total	Revenue (\$)	Percentage of Total	Revenue (\$)	Percentage of Total	Revenue (\$)	Percentage of Total
All industries								
2016	89,438,334	—	37,834,012	—	108,584,343	—	224,138,848	—
2017	85,178,614	—	31,741,589	—	106,412,878	—	219,974,403	—
2018	83,196,085	—	32,891,297	—	108,463,250	—	230,861,465	—
2019	96,031,147	—	37,047,715	—	133,827,096	—	241,274,974	—
2020	101,529,802	—	37,453,767	—	159,738,454	—	253,161,450	—
Oil and gas								
2016	59,917	0.1	2,294,127	6.1	304,648	0.3	10,807,710	4.8
2017	34,377	0.04	467,366	1.5	178,705	0.2	8,458,084	3.8
2018	26,345	0.03	582,255	1.8	334,741	0.3	11,346,035	4.9
2019	69,324	0.1	880,362	2.4	712,611	0.5	13,053,181	5.4
2020	68,914	0.1	386,954	1.0	1,691,721	1.1	11,077,145	4.4

Source: New Mexico Department of Taxation and Revenue 2021

Note: Tax collections are distributed the second month after the accrual (business activity) month. Annual revenue shown reflects gross receipts tax distributions during that year. Oil and gas data reflect gross receipts tax from all mineral extraction activities, including oil and gas extraction.

Ecosystem Services

Ecosystem services are the benefits human societies obtain from the ecosystems (MEA 2005; Deal et al. 2017). These services include some components that can be measured with standard evaluations of contributions to jobs and income. However, many of these goods and services, such as clean water, wildlife habitat, and beautiful scenery, are not easily captured by market values. Ecosystem services are essential for meeting basic human needs, including support for psychological well-being (for example, aesthetic enjoyment). Examples of benefits provided from undeveloped lands include fresh water and air, waste regulation, biodiversity maintenance, soil formation, protection from natural hazards, and opportunities for solitude and spiritual connection to the landscape.

Ecosystem services are commonly subdivided according to the type of benefit provided. The Millennium Ecosystem Assessment, a well-known ecosystem services classification, divides services into four categories (World Resources Institute 2005):

1. Provisioning services (for example, water or timber)
2. Regulating services (for example, flood regulation or carbon sequestration)
3. Cultural services (for example, recreational and spiritual uses)
4. Supporting services (for example, nutrient cycling and biodiversity)

Although there may be additional ecosystem goods and services that could be identified in the withdrawal area, main resources that are present include cultural and spiritual uses, rangelands, recreation, and water supply. These resources and their associated human benefits represent key areas of importance regarding the provision of ecosystem services.

Open space can be an important contributor to the quality of life for communities next to public lands. These areas provide scenic views, recreation opportunities, and other benefits. In addition, nonmarket resources may provide economic benefits. Public lands in the planning area may provide enhanced value to adjacent private parcels. Additionally, open space and related amenities may attract new residents who, in turn, bring new sources of income to the area.

Recreation has important economic value, both in terms of the satisfaction it provides residents and the activity it generates for the regional economy. Visitors to the planning area are often attracted to its lower elevation, sunnier climate, and distinctive recreation opportunities. Regionally distinctive recreation that brings people and outside dollars into the area are the motorized and nonmotorized vehicle events.

Environmental restoration, such as cleanup and final reclamation of wells and facility sites, can have economic value to local communities.

4.3.2 Environmental Consequences

As described in **Section 4.1.2**, the withdrawal would not affect existing valid leases or rights, including the 71,900 acres of existing federal oil and gas leases; it also would not apply to minerals or issued oil and gas leases owned by private, state, or tribal entities. However, impacts on the local economic output would occur from the withdrawal from mineral entry of currently unleased lands with mineral potential.

Under the proposed withdrawal, employment in mineral extraction-related occupations would decline due to a reduction of available opportunities for these industrial activities within the withdrawal area. As described in **Section 4.2.2**, it is estimated that the potential development of a total of 47 new oil and gas wells (20 horizontal and 27 vertical or directional) would be foregone because of the withdrawal. Reduced mineral revenues would also occur because of the withdrawal of lands from mineral entry. Economic effects from the proposed action, including modeled impacts on employment and an estimated reduction in mineral revenues, are discussed below.

Local Employment and Labor Income

The proposed removal of approximately 338,690 acres of federal mineral estate from mineral entry and leasing would reduce foreseeable development by approximately 20 horizontal and 27 vertical or directional wells and would result in an estimated loss of up to 49 jobs and \$12.2 million in total economic contributions per well, per year, over the 20-year withdrawal time frame. The assumptions and inputs from which these modeled results are derived are presented in detail in **Appendix C**. These costs are shown in **Table 4-6**. These values represent the total change in jobs and income for the region, including

direct jobs and income, as well as indirect and induced jobs and income associated with ancillary industries that support mineral production.

Table 4-6. Modeled Economic Contributions Foregone under the Proposed Alternative

Indicator	Contributions (Drilling and Completion, per well) (2021\$)		Total Annual Contributions (Drilling and Completion, all types) (2021\$)	Total for 20-Year Period (Drilling and Completion, per well) (2021\$)
	Horizontal	Vertical		
Employment	38	11	49	980
Labor Income	\$1,830,354	\$523,096	\$2,353,450	\$47,069,000
Value Added	\$3,080,896	\$898,571	\$3,979,467	\$79,589,340
Total Output	\$9,475,098	\$2,780,232	\$12,255,330	\$245,106,600

Source: IMPLAN 2022

These losses (49 jobs) would represent only 5.3 percent of total employment in the mining sector within the four-county study area. Moreover, it should be noted that these estimates do not take into consideration the number of new wells that could still be developed on federal mineral estate, subject to existing leases. As such, these values represent a conservatively high estimate of the possible loss of economic contributions, and actual impacts would likely be lower.

Mineral Royalties and Taxes

The best available estimate of projected oil and gas production is provided in the 2018 RFDS, which estimates an average of 13,978,050 barrels of oil and 254,184,000 mcf of natural gas per year for the period from 2018 to 2037 (BLM 2018).² It is estimated that the potential development of 206,737 barrels of oil per year and 3,759,416 mcf of natural gas per year would be foregone because of the withdrawal. Although development of private, state, and tribal fee mineral estate could continue on lands adjacent to withdrawn federal minerals, the loss of production on federal mineral estate within the area proposed for withdrawal could cause a loss of federal oil and gas resources that may have been obtained from the withdrawn parcels. This would result in a long-term loss of potential royalties to the United States government at the rate of 16.66 percent of the value of production, or \$4.8 million per year.³ Compared with average total gross receipts tax revenue in the four-county study area from 2016 to 2020 (\$12.5 million), this would represent an approximately 39 percent reduction in gross receipts tax revenue.⁴

Ecosystem Services

Through a reduction of exploration activities as a source of noise and emissions over the next 20 years, the proposed withdrawal could have a positive impact on the Chaco region's scenic and cultural values, with accompanying benefits to the quality of experiences for recreational users. A reduction of oil and gas

²These estimates assume high production volumes early in the life of an oil and gas well, as opposed to late-stage wells that are overwhelmingly common in the San Juan Basin.

³Given the Henry Hub Spot Price of \$4.11 (\$2021; EIA 2022a), estimated annual revenue from production of 3,759,416 mcf of natural gas is calculated to be \$15,451,200. Estimated revenue based on the reference case wellhead price per barrel of \$67 (\$2021; EIA 2022b) for an annual oil production of 206,737 barrels is \$13,851,379. Applying a 16.66 percent royalty rate to this combined revenue (\$29,302,579) yields \$4,881,810. This represents roughly 39 percent of average oil and gas gross receipts tax revenues over the 5-year period from 2016 to 2020 within the four-county study area (\$12,566,908).

⁴Based on Energy Information Administration price data obtained from the Annual Energy Outlook report, which indicates a price of \$67.00 per barrel for oil (lower 48 reference case average wellhead price per barrel, Gulf Coast, in 2021) and \$3.96 per mcf for gas (Henry Hub Spot Price in 2021)

development within the withdrawal area could reduce and would prevent industrialization of the land and preserve the dark night skies and rich views of the landscape within the Chaco region. This would have a positive effect on visitor enjoyment of outdoor recreation within the proposed withdrawal area and the connected surrounding areas. However, during the period of any withdrawal and over the long term, the likelihood of continued oil and gas development of private, state, and tribal lands within the area proposed for withdrawal would remain. Therefore, contributions to light pollution from sources such as natural gas flares, drilling sites, and storage areas on these nonfederal lands may offset, to some degree, any beneficial effects of the proposed 20-year withdrawal.

4.4 RESOURCE ISSUE 4: HOW WOULD THE PROPOSED WITHDRAWAL DISPROPORTIONATELY AFFECT ENVIRONMENTAL JUSTICE COMMUNITIES, SUCH AS NAVAJO ALLOTTEES?

4.4.1 Affected Environment

Study Area Demographics

The proposed withdrawal boundary overlaps four counties in New Mexico: San Juan, Sandoval, McKinley, and Rio Arriba Counties. Sandoval County has the largest population (about 145,000) and the highest median household income (higher than the state and national levels). Rio Arriba County has the lowest population (about 39,000). The median household income for McKinley County is about \$36,000, which is the lowest household income in the study area (Census Bureau 2020) (see **Table 4-7**).

Table 4-7. Population and Median Household Income (2020)

Geographic Region	Population	Median Household Income
McKinley County	71,956	\$36,179
Rio Arriba County	38,962	\$42,264
Sandoval County	144,954	\$65,071
San Juan County	125,608	\$47,643
New Mexico	2,097,021	\$51,243

Source: Census Bureau 2020

Within the proposed withdrawal boundary, there are five population centers: Lake Valley, Pueblo Pintado, Becenti, Crownpoint, and Borrego Pass (see **Map 4-1**). Except for the Crownpoint census designated place (CDP), which has a population greater than 3,000 people, the other CDPs all have a population less than 500 people (Census Bureau 2020). The median household incomes range from about \$41,000 to \$43,000, which are lower than the state and national levels (Census Bureau 2020; see **Table 4-8**). The proposed withdrawal boundary overlaps seven census tracts (see **Map 4-2**). Note that only those portions of the tribal census tracts within the withdrawal boundary are presented on the map. All census tracts have median household incomes lower than the state and national levels (Census Bureau 2020).

Table 4-8. Population and Median Household Income for Census Tracts and CDPs (2020)

Geographic Region	Population	Median Household Income
Borrego Pass CDP	143	—
Becenti CDP	243	\$43,250
Crownpoint CDP	3,018	\$41,328
Lake Valley CDP	96	\$40,694
Pueblo Pintado CDP	314	\$40,500
Census Tract 9409	3,196	\$15,150
Census Tract 9432.01	5,835	\$28,889
Census Tract 9435	3,985	\$40,305
Census Tract 9437.02	1,619	\$32,604
Census Tract 9436.02	2,422	\$31,840
Census Tract 9440	1,976	\$24,788
Census Tract 9460.03	1,719	\$22,500
New Mexico	2,097,021	\$51,243
United States	326,569,308	\$64,994

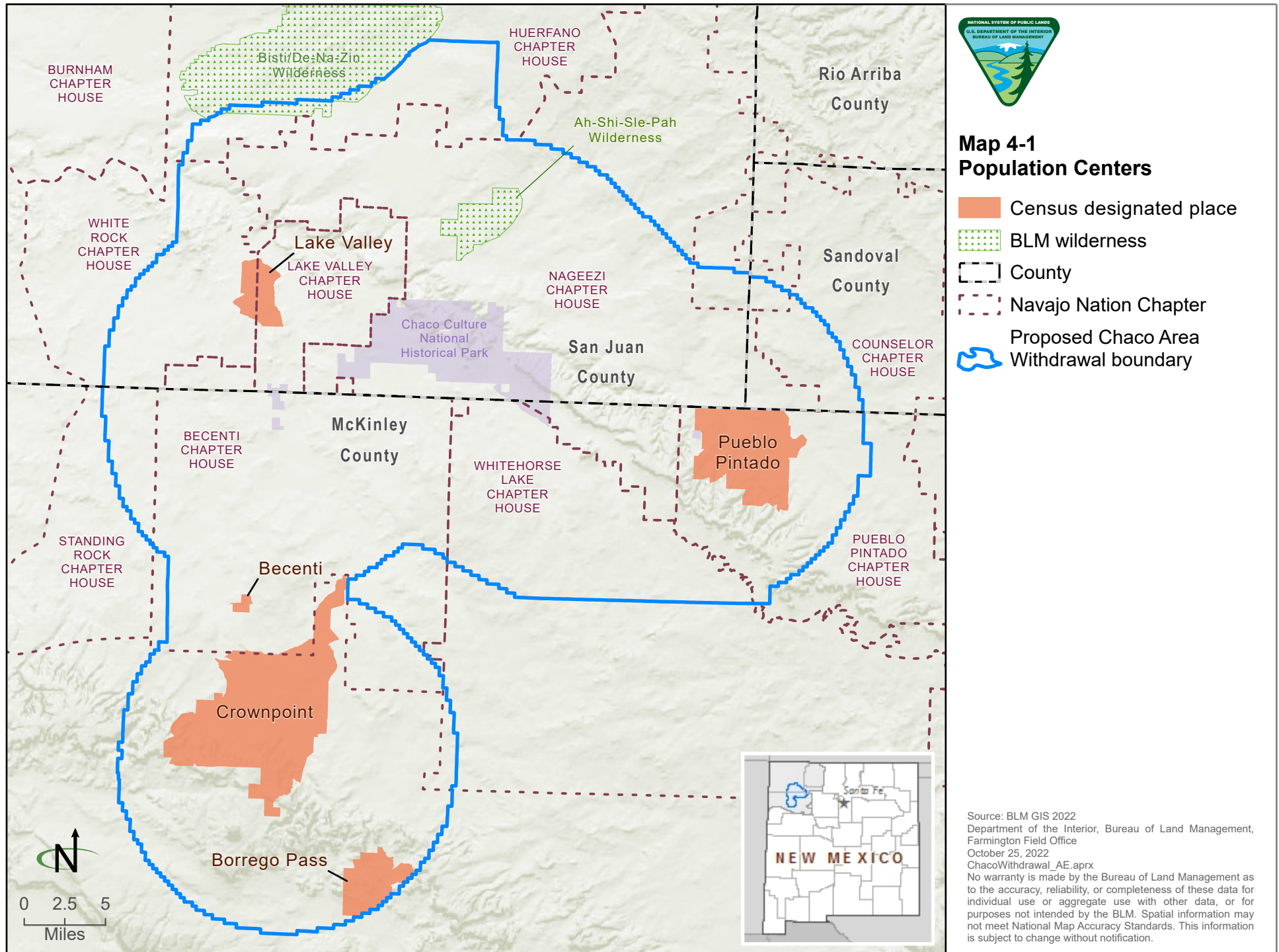
Source: Census Bureau 2020

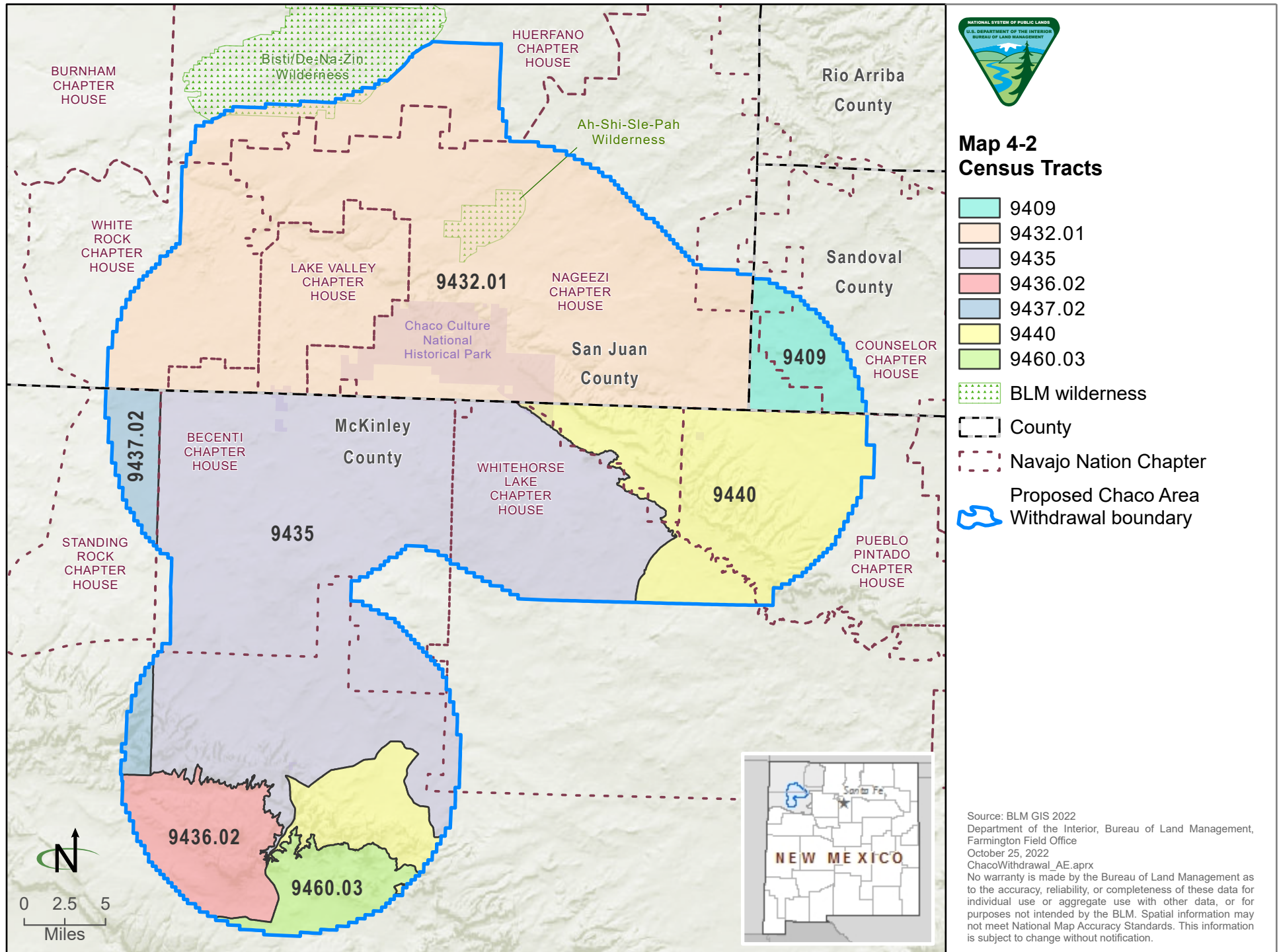
Navajo Allottee Mineral Owners

Beginning in the late nineteenth century under various authorities, Indian Allottees applied for or were assigned patents of lands. While many of these patents expressly reserved specific mineral commodities to the United States, depending on the General Land Office classification orders at the time of the patent (frequently coal and fissionable minerals in the case of Navajo allotments), many patents failed to address minerals. To alleviate confusion surrounding the mineral estates underlying the patents, the Mescal Settlement Agreement (MSA)⁵ was signed. Under the agreement, allottees party to the class were issued supplemental mineral patents for minerals not encumbered by an existing federal lease. For those encumbered by a federal oil and gas lease, a special fund was established that paid the allottees the royalties of the minerals produced until such time as the lease was closed, upon which the allottees would then be issued the supplemental mineral patent. These leases are known as “Mescal” leases. Three Mescal leases remain active for allotments 248268, 259897, and 556408 within the proposed withdrawal area.

There are 13 allotments within the proposed withdrawal area that were not class members to the MSA. Coal for allotments 1069, 1081, and 261403 was reserved to the United States under all or a portion of the allotments’ surface extents. Additionally, the BIA considers allotment 258758 an Indian allotment, but the patent vehicle specifies that it is a traditional homestead patent for stock raising. As such, coal was explicitly reserved to the United States for allotment 258758. Allotment 260804, including minerals, was explicitly reconveyed to the United States prior to the MSA. The patents for allotments 894 and 934 were canceled by the BIA prior to the MSA. As such, these allotments are situated above federal coal rights that are proposed for withdrawal. Allotments 233, 260576, 260970, 279560, 279561, and 280249 were not MSA class members, and no federal mineral rights exist for the underlying patents.

⁵ District Court of New Mexico, January 28, 1997, *Bertha Mescal v. United States of America* (No. CIV 83–1408 LH/WWD)





Following the issuance of allotted supplemental mineral patents, many allottees have leased minerals to producers, coordinated through the Federal Indian Minerals Office (FIMO). The Department of Interior established FIMO to provide and improve services to individual Indian beneficiaries in the management of their oil and gas mineral resources. In accordance with Secretary Redelelegation Order 209 Department Manual (DM) 8, 303 DM 2 and 4 authorizations were given to FIMO to conduct all aspect of leasing on behalf of the Secretary for the benefit of the individual Indian allottees. FIMO has been structured to consolidate and integrate Indian allotted oil and gas management functions under one line of authority. The Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), Office of Natural Resources Revenue (ONRR), and Office of Special Trustee for American Indians (OST) share in administering regulatory functions related to oil and gas activities on Indian Allotments. These agencies are the four pillars of FIMO. Allotted lease royalty rates range from 2 percent to 20 percent of production with the most common active rates being 12.5 percent, 16.67 percent, 16.7 percent, 18.75 percent, and 20 percent. These rates increase in complexity depending on whether the lease is a participating area in a communitization or unitization agreement. Rental rates vary from \$1.25 to \$11 with the current value being \$7 per acre, such that the average rental for a standard 160-acre allotment is roughly \$1,120 per year; however, it could be significantly more or less depending on the rental rate and acreage.

Aside from the various royalty and rental rates, the allotment landscape is subject to simple, geographic, and resource fractionation. Simple fractionation is where title ownership is diluted and divided among the heirs of original allottees through the course of generations. Fractionation sometimes results in hundreds of allottees having title to one parcel. The converse situation also exists, in which an allottee will have a percent ownership in multiple allotments through the pedigree of one's genealogy. Geographic fractionation occurs when a piece of a base allotment is removed and ascribed a child allotment. Resource fractionation occurs when all, a geographic portion of, certain specific resources, or a combination of geographic portions of specific resources are removed from a base allotment and ascribed a child allotment. Geographic and resource fractionation frequently occur concurrent with simple fractionation, creating branches in an allotment's lineage where simple fractionation will continue independent of the continued simple fractionation of the remainder of the other fractional (that is, geographic and/or resource) allotted estate(s). Frequently, an individual allottee will have different interests in different geographic and/or resource child allotments.

Communities of Environmental Justice Concern

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires federal agencies to identify and address any disproportionately high and adverse human health or environmental impacts of their programs, policies, and activities on minority and low-income populations.

According to the CEQ's EJ guidelines for NEPA (1997), "minority populations should be identified where either the minority population of the affected area exceeds 50 percent or where the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis." For this analysis, "meaningfully greater" is classified as 10 percentage points or higher than that of the state-level reference population. The CEQ also states that minority populations should be identified if Native American tribes are present in the area.

Low-income populations are defined as persons living below the poverty level, based on total income of \$14,097 for an individual and \$27,479 for a family of four for 2021 data (Census Bureau 2021). For this analysis, the percentage of persons in poverty in the study area is compared with that of the state; the study area is considered an EJ community if the low-income population is greater than 50 percent or if it is 10 percentage points or higher than the state reference population.

As shown in **Table 4-9**, the area is characterized by a diverse population, with lands of historical importance for Native American populations that continue to support a high population of Native Americans (notably, McKinley and San Juan Counties, where the Native American populations are 79.7 and 41.4 percent, respectively). The tribes or tribal members who continue to visit cultural resources in the planning area can include activities ranging from use of traditional cultural properties for ceremonial or sacred purposes to gathering plants for medicinal or other purposes. There are seven tribal census tracts in the study area that are part of the Navajo Nation Reservation and Off-Reservation Trust Land (see **Map 4-3**). Note that only those portions of the tribal census tracts within the withdrawal boundary are presented on the map.

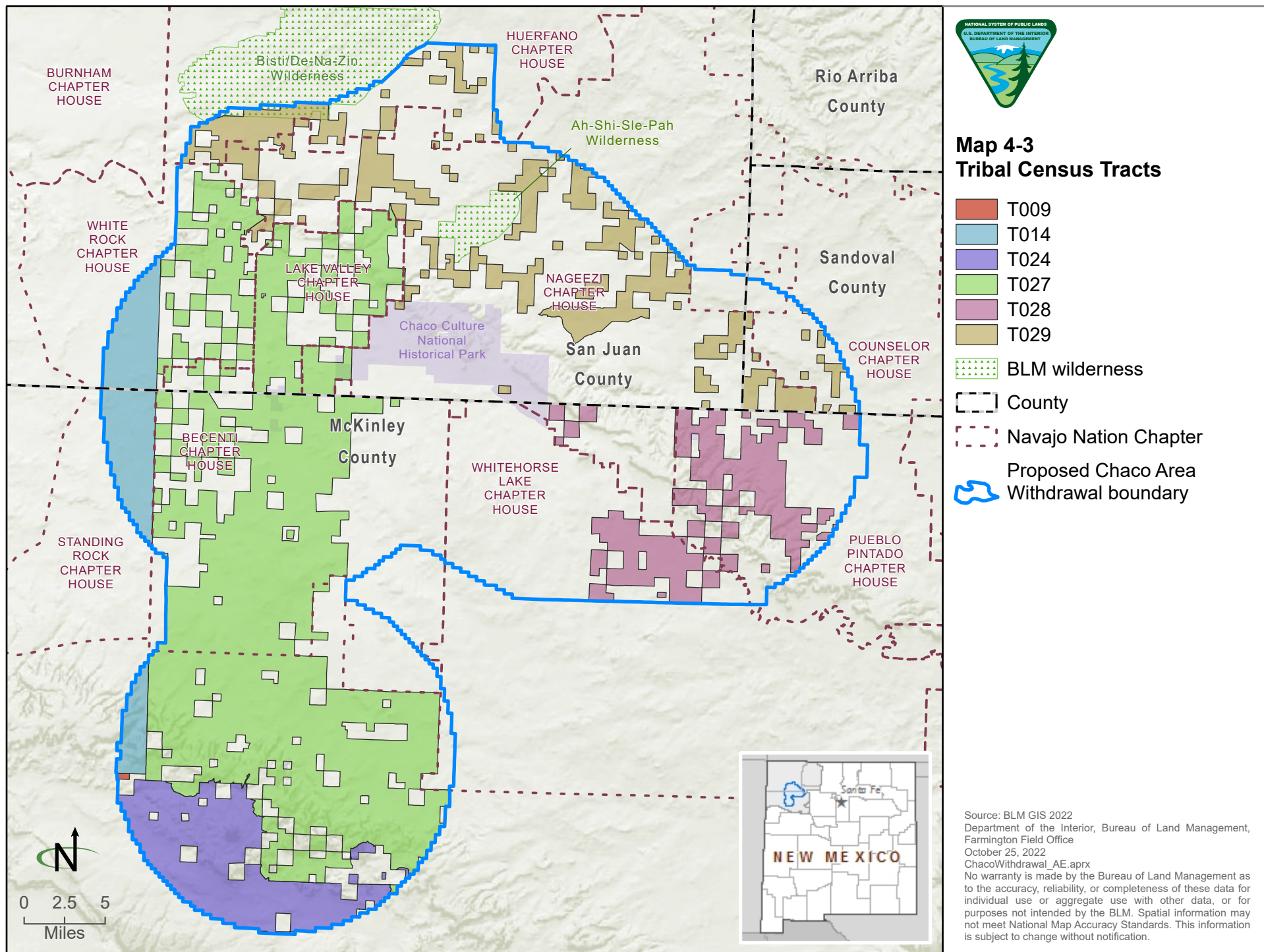
Table 4-9. Study Area Minority Population (Percentage of Total Population)

Geographic Region	Minority Percentage (%)	Native American Percentage (%)
McKinley County	91.6	79.7
Rio Arriba County	87.9	17.4
Sandoval County	57.3	14.4
San Juan County	62.6	41.4
New Mexico	63.3	10.9
Navajo Nation Reservation and Off-Reservation Trust Land, Arizona, New Mexico, and Utah		
Tribal Census Tract T009	98.8	97.9
Tribal Census Tract T014	99.3	99.3
Tribal Census Tract T024	95.6	93.0
Tribal Census Tract T027	100.0	40.6
Tribal Census Tract T028	97.8	90.1
Tribal Census Tract T029	99.7	98.8

Source: Census Bureau 2020

The minority populations for Sandoval and San Juan Counties (57.3 percent and 62.6 percent, respectively) were slightly lower than the state average for New Mexico (63.3 percent). The minority populations for McKinley and Rio Arriba Counties were substantially greater than the state average (28.3 and 24.6 percentage points higher, respectively), and exceed the threshold for EJ communities. All seven tribal census tracts had minority populations more than 10 percentage points higher than the state average (Census Bureau 2020).

The percentage of individuals below the poverty level ranged from 12.0 percent in Sandoval County to 34.8 percent in McKinley County. Rio Arriba County (22.6 percent) and San Juan County (21.4 percent) had rates of individuals below the poverty level close to the state average (18.2 percent). Only Sandoval County had a low-income percentage below the state average. According to the threshold for



EJ communities outlined above, McKinley County meets the threshold for a low-income EJ community. Similarly, Sandoval County is the only county in the study area with household income above the state average household income (about \$65,000). McKinley County has the lowest household income (about \$36,000), and the household income for Rio Arriba and San Juan Counties fell in the middle, closer to the state average (Census Bureau 2020).

Table 4-10 shows the percentage of low-income population and household income for each county in the study area, New Mexico, and each tribal census tract in the study area. When breaking out the region by tribal census tracts, the low-income percentages for all the tribal census tracts, except for tribal census tract T027, are greater than 10 percentage points above the state average. For rural areas, it is often difficult for the Census Bureau to collect accurate data due to smaller participation rates; therefore, it is possible that the low-income population collected by the Census Bureau is underrepresented in tribal census tract T027, which has the lowest total population across the seven tribal census tracts.

Table 4-10. Study Area Household Income and Low-Income Population (Percentage of Total Population)

Geographic Region	Household Income	Low-Income Percentage
McKinley County	\$36,179	34.8%
Rio Arriba County	\$42,264	22.6%
Sandoval County	\$65,071	12.0%
San Juan County	\$47,643	21.4%
New Mexico	\$51,243	18.2%
Navajo Nation Reservation and Off-Reservation Trust Land		
Tribal Census Tract T009	\$26,960	39.1%
Tribal Census Tract T014	\$32,813	58.7%
Tribal Census Tract T024	\$25,556	30.4%
Tribal Census Tract T027	\$36,235	5.2%
Tribal Census Tract T028	\$20,000	34.4%
Tribal Census Tract T029	\$23,125	42.9%

Source: Census Bureau 2020

4.4.2 Environmental Consequences

Overall Effects within the Study Area

The proposed withdrawal would remove approximately 338,690 acres of federal mineral estate from mineral entry and leasing. Navajo Tribal Trust Lands within the withdrawal area overlay 130,470 acres with federal minerals, 116,160 acres of which are currently unleased and would be withdrawn from mineral entry. The withdrawal would not affect existing valid leases or rights and would not apply to minerals owned by private, state, or tribal entities.

Although adjacent nonfederal lands and federal lands with existing leases could—and likely would—experience continued development, the proposed withdrawal could result in improvements to the visual setting of the area, including enhanced visibility for night sky viewing, decreased noise and traffic from drilling and production operations, and improved regional air quality. Environmental restoration, such as cleanup and final reclamation of wells and facility sites, could improve the quality of living for communities in the withdrawal area who would benefit from a restored landscape.

Navajo Allottee Mineral Owners

Because the proposed withdrawal would remove federal subsurface resources from location, entry, or leasing, exclusive of trust and exclusive of a valid existing right under which mineral development can continue in accordance with the terms and conditions of said rights, the impacts of the proposed withdrawal are therefore necessarily indirect with respect to Indian Allottees. Because of the private nature of allotted resources held in trust—as complicated by simple, geographic, and resource fractionation resulting in restricted land⁶—and the reality of location-dependent variable actual or estimated potential production, it is difficult for the BLM to quantify the indirect impacts of the proposed withdrawal on individual allottees. The BLM does not have access to the trust information maintained by the BIA to make such detailed analysis. However, the following analysis seeks to generalize the potential for indirect impacts on individual base allotments without the complicating factors of simple, geographic, and resource fractionation.

Many Navajo Allottees depend economically on the development of minerals within the area. Navajo allotments consist of 160-acre (one-half-mile square) tracts, often in a checkerboard pattern with adjacent federal mineral estate. Current oil and gas development north of CCNHP involves horizontal drilling that extends up to 2 miles. Wells are permitted within the acreage that the well will drain, if productive. This is known as the “spacing unit.” A 1-mile horizontal well will have a 320-acre spacing unit, and a 2-mile well will have a spacing unit of 640 acres. As a potential consequence of the withdrawal of adjacent federal mineral estate, individual allotments may not be developed as efficiently. Thus, while the withdrawal would not prohibit the Navajo Allottees from leasing their minerals, withdrawing the federal mineral estate may affect development of the Navajo allotted lands.

Each of the 1,234 base allotments within or intersecting the proposed withdrawal area boundary was analyzed with respect to proximity to the FFO’s RFDS, its proximity to federal minerals proposed to be withdrawn, the allotment’s lease status, and the allotment’s adjacency to existing federal, state, and allotted fluid mineral leases. In addition to the 1,234 base allotments within the proposed withdrawal area, an additional 35 base allotments adjacent to federal minerals proposed to be withdrawn—but exterior to the proposed withdrawal area boundary—were analyzed. These 1,269 base allotments consist of 1,358 simple, geographic, and resource fractionated allotments (see **Map 4-4**).

Overall, 50, or just over 4 percent, of the unleased 1,165 allotments analyzed may see a high or moderate impact on future leaseability. An additional 36 unleased allotments (approximately 3 percent) may see low, but real, impacts on future leaseability. The proposed withdrawal will likely not adversely affect the vast majority (over 92 percent) with respect to real leaseability.

Eleven allotments were categorized as high future allotted lease impact (see **Table 4-11**, below). Allotments 221, 222, 259, 263, 491, 1655, 1656, 1719, 211605, 261403, and 703894 all share a boundary with the proposed withdrawal area, but they are only corner-adjacent existing leases. The proximity of developed minerals without the possibility of practical extension of the development into these allotments, except on their own merits within their own spatial extent, is an aggravating factor, should the proposed withdrawal be implemented, regardless of the development potential in which the individual allotments lie. These allotments lie in high, medium, and negligible potential. Allotment 211605 lies outside the withdrawal boundary.

⁶ Restricted lands in this case are defined as Trust lands with non-Trust encumbrances.

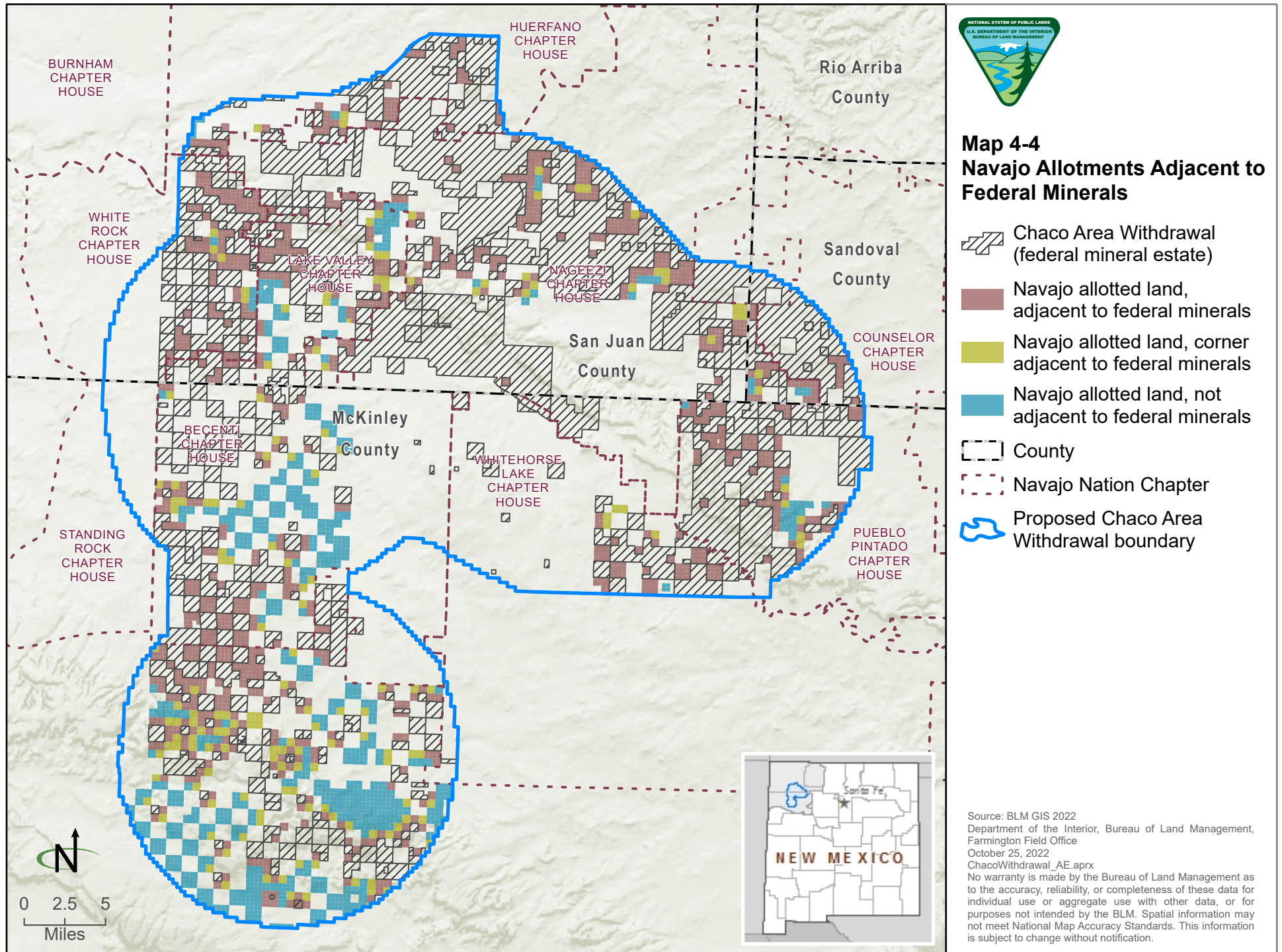


Table 4-11. Potential Future Allotted Lease Impacts for Navajo Allotments

Allotted Impact Reason	Allotment Count within or Intersecting Analysis Boundary	Adjacent Allotment Count outside Analysis Boundary	Analyzed Allotment Count (Total)	Analyzed Allotment Count (Total Including Known Fractionation*)
FUTURE ALLOTTED LEASE IMPACTS LEVEL: Low				
Adjacent existing lease in high potential	4	0	4	5
Adjacent existing lease in medium potential	27	0	27	29
Isolated from adjacent lease in medium potential, mitigated by only corner adjacency to proposed withdrawal	5	0	5	5
Isolated from adjacent lease in low potential	137	4	141	146
Total (Low)	173	4	177	185
FUTURE ALLOTTED LEASE IMPACTS LEVEL: Moderate				
Corner-adjacent existing lease in medium potential, mitigated by only corner adjacency to proposed withdrawal	2	0	2	2
Isolated from adjacent lease in medium potential	37	0	37	41
Total (Moderate)	39	0	39	43
FUTURE ALLOTTED LEASE IMPACTS LEVEL: High				
Corner-adjacent existing lease in high potential	1	0	1	1
Corner-adjacent existing lease in medium potential	7	1	8	9
Corner-adjacent existing lease in negligible potential	2	0	2	2
Total (High)	10	1	11	12

Source: BLM GIS 2022

*Geographic and resource fractionation only; does not account for simple heir fractionation

A total of 39 allotments were categorized as moderate future allotted lease impact. The majority (37) are isolated from existing adjacent leases in medium development potential. The 37 isolated allotments are 205, 211, 214, 215, 223, 224, 225, 226, 227, 308, 309, 310, 311, 312, 314, 315, 568, 570, 635, 1658, 1661, 1662, 1663, 1671, 259683, 260128, 260133, 260134, 261669, 261670, 261673, 261674, 261756, 262073, 262611, 276846, and 277869. Two allotments (1650 and 1660) are corner adjacent to an existing lease in medium development potential. As with the high-impact classification, corner-adjacent leases are considered aggravating regardless of where the allotment lies; however, unlike the allotments above, any impacts on the allotments are mitigated by the allotments being merely corner adjacent to the proposed withdrawal (that is, they do not share a boundary with the proposed withdrawal). As such, the assessed impact is categorized as moderate.

There are 177 allotments categorized as low future allotted lease impact. The majority (141) are isolated from existing adjacent leases in low development potential. In practice, allotments in low potential not modified by mitigating or aggravating factors are likely negligible impact, but they are included in low impact

to maintain logical consistency. Additionally, minor geologic structures inconsistent with the characteristics of low potential may yield localized favorability for development more consistent with medium, or even high, development potential. As such, the possibility for localized yields can be considered distributed across the entire low development potential, which reinforces maintaining the logical consistency. An additional 31 allotments are situated in medium and high potential; however, possible impacts on them are mitigated by adjacent existing leases. A further five are isolated from existing leases situated in medium development potential; however, any impacts on them from the proposed withdrawal are mitigated by the fact that they are only corner adjacent to the proposed withdrawal.

The remaining 1,042 allotments are categorized as negligible future allotted lease impact for the following reasons: 406 are not adjacent to the proposed withdrawal, 373 are isolated from existing adjacent leases situated in negligible development potential, 149 are isolated from existing leases in low or negligible development potential mitigated by only corner adjacency to the proposed withdrawal, 101 are already actively leased, 3 are surface-only allotments with Mescal leases, 2 are adjacent existing leases in negligible potential, and the remaining 8 are adjacent existing leases in high, medium, or negligible potential with any impacts further mitigated by only corner adjacency of the allotments to the proposed withdrawal.

Communities of Environmental Justice Concern

Impacts on EJ populations would be the same as those described above for the general population; however, EJ populations are at a greater risk for impacts due to disparities in access to health care and other social services. Quality-of-life issues involve changes to the social setting, such as those seen from energy development, and health and safety impacts, such as those from air and water quality and hazardous material. Minority populations, low-income populations, and tribal populations in the decision area are more vulnerable to the health effects of air quality due to a lack of community health care infrastructure. As a result, increased susceptibility to adverse health effects and impacts on the quality of life caused by a loss of income is a specific issue of concern for EJ populations.

Adverse impacts on EJ communities would occur if the federal minerals proposed for withdrawal are disproportionately colocated on surface lands administered by Navajo tribal entities (individual tribal allotments and BIA-administered surface). According to the Mancos-Gallup RFDS (BLM 2018), the proposed withdrawal area within the planning area includes areas of high, medium, low, and negligible development potential. Navajo chapters and the communities of Nageezi and Counselor on tribal census tracts T027 and T028 have the highest potential for foreseeable oil and gas development; the areas of withdrawal for these tribal census tracts would be 57,360 and 22,920 acres, respectively (see **Table 4-12**). For comparison, these represent approximately 9 percent and 16 percent, respectively, of the total proposed withdrawal area for the BLM-administered lands (144,700 acres).

Overall, the proposed withdrawal's impacts on EJ communities, as the withdrawal may impact the subset of tribal lands not currently leased with high mineral potential, would not be disproportionate compared with the effects of the proposed withdrawal on non-tribal lands. Moreover, the beneficial effects of improved air quality, noise, and cultural resources protection would offset economic impacts to some degree through enhancements to the quality of life and public health. As described in **Section 4.1.2**, the proposed withdrawal would not affect existing leases or valid rights; it also would not apply to minerals or issued oil and gas leases owned by private or tribal entities.

Table 4-12. Subsurface Acreage in the Proposed Withdrawal Area* by Surface Ownership

Geographic Region	Subsurface Acres*
Navajo Nation Reservation and Off-Reservation Trust Land, Arizona, New Mexico, and Utah	93,760
Tribal Census Tract T009	0
Tribal Census Tract T014	60
Tribal Census Tract T024	800
Tribal Census Tract T027	57,360
Tribal Census Tract T028	22,920
Tribal Census Tract T029	12,610

*Does not include acreage currently withdrawn or under nondiscretionary closure

4.5 CUMULATIVE IMPACTS ANALYSIS

The BLM has considered the cumulative impacts from the proposed withdrawal. That is, the BLM has considered the incremental impacts from the proposed action cumulatively with past, present, and reasonably foreseeable future actions, regardless of the agency or organization taking action. Relevant actions are those that similarly restrict development of mineral resources.

Federal subsurface estate currently withdrawn within the boundary of the area proposed for withdrawal includes areas of nondiscretionary and discretionary closure.. If the Secretary withdraws the public land as proposed, approximately 338,690 acres altogether would be restricted from development of certain mineral resources. No other actions that would add to the total area withdrawn or restricted from development of mineral resources in this area of New Mexico are reasonably foreseeable at this time.

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Chapter 5. Consultation and Coordination

5.1 ENDANGERED SPECIES ACT COMPLIANCE

In complying with its duty under Section 7 of the Endangered Species Act, the BLM has examined the effects of the proposed withdrawal on listed species and designated critical habitat. The BLM has determined that the proposed withdrawal would have “no effect” on federally listed plants and animals or their habitat under the Endangered Species Act due to lack of suitable habitat within the action area. As such, there was no further requirement to formally or informally consult and gain concurrence from the US Fish and Wildlife Service under Section 7 of the Endangered Species Act.

5.2 TRIBES, INDIVIDUALS, ORGANIZATIONS, AND AGENCIES CONSULTED

During the NEPA and NHPA processes for this undertaking, the BLM formally and informally coordinated and consulted with other federal agencies, state and local governments, Native American tribes, and the interested public. The agency did this to ensure its compliance, in both the spirit and intent, with 36 CFR 800, 40 CFR 1501.7, 40 CFR 1502.19, and 40 CFR 1503. In addition to the public information-gathering process, the BLM implemented collaborative outreach and public involvement for development of the EA.

5.3 TRIBAL GOVERNMENT-TO-GOVERNMENT CONSULTATION

The federal government engages on a government-to-government basis with Native American tribes because they are recognized as separate governments. This relationship was formally recognized on November 6, 2000, with Executive Order 13175 (65 *Federal Register* 67249). As a matter of practice, the BLM coordinates with all tribal governments, associated Native communities, Native organizations, and tribal individuals whose interests might be directly and substantially affected by activities on public lands.

In addition, Section 106 of the NHPA requires federal agencies to consult with Native American tribes regarding individual undertakings and historic properties significant to a tribe (36 CFR 800.2(c)(2)). BLM Manual 1780, Tribal Relations, and BLM Handbook H-1780-I, Improving and Sustaining BLM-Tribal Relations, provide guidance for Native American consultations. Executive Order 13175 stipulates that during the NEPA process, federal agencies must consult tribes identified as directly and substantially affected.

Tribal consultation for the proposed Chaco withdrawal was initiated on a government-to-government basis by the BLM FFO with various pueblos and tribes of New Mexico, Arizona, and Colorado. A letter and map describing the proposed action and inviting consultation with the BLM FFO was sent on January 24, 2022, via certified mail to the pueblos and tribes listed in **Table 5-1**, with a request for a response within 30 days of receipt. A second letter was sent on March 25, 2022. The BLM held a consultation session from April 27 to April 29, 2022.

Table 5-1. Pueblos, Tribes, and Tribal Organizations Receiving Consultation Requests from the BLM FFO

Entity	Person
All Pueblo Council of Governors*	Governors
Eight Northern Indian Pueblo's Council	Governors
Five Sandoval Indian Pueblos	Governors
Jicarilla Apache Tribal Council	President Edward Velarde
Kewa Pueblo	Governor Sidelio Tenorio
Navajo Nation*	President Johnathon Nez
Ohkay Owingeh	Governor Joseph P. Aguino
Pueblo de San Ildefonso	Governor Christopher Moquino
Pueblo of Acoma	Governor Randall Vicente
Pueblo of Cochiti*	Governor Phillip Quintana
Pueblo of Isleta*	Governor Vernon B. Abeita
Pueblo of Jemez*	Governor Raymond Loretto
Pueblo of Laguna*	Governor Martin Kowemy, Jr.
Pueblo of Nambe*	Governor Nathaniel Porter
Pueblo of Picuris	Governor Craig Quanchello
Pueblo of Pojoaque*	Governor Jenelle Roybal
Pueblo of San Felipe	Governor Carl Valencia and Director Pinu'u Stout, Department of Natural Resources
Pueblo of Sandia	Governor Stuart Paisano
Pueblo of Santa Ana	Governor Joseph Sanchez
Pueblo of Santa Ana Tribal Historic Preservation Office	Monica L. Murrell
Pueblo of Santa Clara*	Governor J. Michael Chavarria
Pueblo of Taos	Governor Clyde M. Romero
Pueblo of Tesuque	Governor Robert Mora, Sr.
Pueblo of Zia*	Governor Gabriel Galvan
Pueblo of Zuni*	Governor Val Panteah, Sr.
Southern Ute Indian Tribe	Chairwoman Melvin J. Baker
Ten Southern Pueblo Governor's Council	Governors
The Hopi Tribe	Chairman Timothy L. Nuvangyaoma
Torreon Chapter House	President Rachel Montoya
Ute Mountain Ute Tribe	Chairman Manuel Heart

* Denotes attendance at the BIA/BLM consultation meeting held on April 29, 2022.

5.4 COMPLIANCE WITH THE NATIONAL HISTORIC PRESERVATION ACT

The New Mexico BLM has a two-party agreement with the New Mexico SHPO that implements an authorized alternative to 36 CFR 800 for most undertakings (BLM New Mexico and SHPO 2014). This agreement offers a streamlined process for reporting and review that expedites consultation with the SHPO.

Section 106 of the NHPA and its implementing regulations (36 CFR 800) require federal agencies to consider what effect their licensing, permitting, funding, or otherwise authorizing an undertaking, such as an application for permit to drill or right-of-way, may have on historic properties on, or eligible for listing on, the National Register of Historic Places. Specific definitions for key cultural resource management concepts, such as undertakings and effects, are given in 36 CFR 800.16.

In accordance with NHPA, the BLM determined that while the proposed mineral withdrawal does constitute an undertaking, there would be no potential to cause effect on historic properties (36 CFR 800.3(a)(1)). The determination is based on the undertaking not authorizing any surface disturbance and instead having only the potential to reduce development and any possibly associated direct, indirect, or cumulative effects. This determination was made after multiple government-to-government and public meetings occurred. While many issues were raised during those meetings, none were related to potential effects on historic properties.

The BLM notified the SHPO on June 29, 2022, of the BLM's determination. Following Appendix C (1)(a) of the two-party agreement with the SHPO, further consultation regarding the undertaking would not be necessary.

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Chapter 6. List of Preparers

This EA was prepared by an interdisciplinary team of staff from the BLM and Environmental Management and Planning Solutions, Inc. The following is a list of people who prepared or contributed to the development of this EA.

Name	Title	Area of Responsibility
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<i>EMPSi—Environmental Management and Planning Solutions, Inc.</i>		
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Katie Patterson	Quality Assurance Lead	NEPA Quality Assurance

Additional BLM field office and state office staff provided necessary data and reviewed interim drafts of this EA.

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Appendix A

Legal Descriptions of the Parcels of Public Lands
Identified for Withdrawal

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Legal description contained in original Federal Register Notice, dated January 6, 2022

New Mexico Principal Meridian, New Mexico

T. 20 N., R. 6 W.,

- sec. 6, lots 3 thru 7, SE1/4NW1/4, and E1/2SW1/4;
- sec. 7;
- sec. 8, W1/2;
- secs. 17 thru 20 and sec. 30.

T. 21. N., R. 6 W.,

- sec. 18, lot 4;
- sec. 19, lots 3 and 4, E1/2SW1/4, and SW1/4SE1/4;
- sec. 30, lots 1 thru 4, W1/2NE1/4, E1/2NW1/4, E1/2SW1/4, and SE1/4;
- sec. 31, lots 1 thru 4, NE1/4, E1/2NW1/4, and E1/2SW1/4;
- sec. 32, SW1/4NW1/4 and W1/2SW1/4.

T. 19 N., R. 7 W.,

- sec. 1, lots 5 thru 7 and SW1/4SE1/4;
- sec. 5, S1/2;
- sec. 6, lots 1, 2, 6, and 7, S1/2NE1/4, E1/2SW1/4, and SE1/4;
- secs. 7 and 8;
- sec. 11, S1/2;
- sec. 12, lots 1 and 2, W1/2NE1/4, and NW1/4;
- secs. 17 thru 19;
- sec. 20, N1/2 and SW1/4;
- sec. 21;
- sec. 22, W1/2;
- sec. 27, NW1/4NE1/4, N1/2NW1/4, and SW1/4NW1/4;
- sec. 28, N1/2, SW1/4, and N1/2SE1/4;
- secs. 29 thru 31.

T. 20 N., R. 7 W.,

- secs. 2 and 3;
- sec. 4, SW1/4;
- secs. 5 thru 7;
- sec. 8, N1/2 and SW1/4;
- secs. 9 thru 12;
- secs. 17, 19, 21, and 29;
- sec. 30, lots 1 thru 4, E1/2NW1/4, E1/2SW1/4, and SE1/4;
- sec. 31;
- sec. 32, N1/2 and SW1/4;
- sec. 33, SW1/4.

T. 21 N., R. 7 W.,

- sec. 2, lot 4, S1/2NW1/4, SW1/4, NW1/4SE1/4, and S1/2SE1/4;
- secs. 3 thru 5;
- sec. 6, lots 1 and 2, S1/2NE1/4, and SE1/4;
- secs. 7 thru 11;
- sec. 12, SW1/4NW1/4, SW1/4, and SW1/4SE1/4;
- sec. 13, NW1/4NE1/4, S1/2NE1/4, NW1/4, and S1/2;
- sec. 14 and secs. 15 thru 18;
- sec. 19, lots 1 thru 4, NE1/4, E1/2NW1/4, and E1/2SW1/4;
- sec. 20, N1/2;
- secs. 21 thru 23;
- sec. 24, SW1/4;
- sec. 25, W1/2;
- sec. 26, N1/2 and SE1/4;
- sec. 27, N1/2;
- sec. 28, N1/2 and SW1/4;
- sec. 29, NE1/4 and S1/2;
- sec. 32, NE1/4, and S1/2;
- sec. 33, W1/2;
- sec. 35, E1/2;
- sec. 36, N1/2 and SE1/4.

T. 22 N., R. 7 W.,

- sec. 28, S1/2SW1/4;
- sec. 29, S1/2NW1/4 and S1/2;
- secs. 30, 31, and 33;
- sec. 34, SW1/4NW1/4, SW1/4, and S1/2SE1/4.

T. 19 N., R. 8 W.,

- secs. 1 and 2;
- sec. 3, lots 3 and 4, S1/2NW1/4, and S1/2;
- sec. 9, E1/2 and E1/2SW1/4;
- secs. 10 thru 15;
- sec. 16, lots 3 thru 7, NE1/4, NE1/4SW1/4, and N1/2SE1/4;
- sec. 18, lots 3 and 4 and E1/2SW1/4;
- sec. 19;
- sec. 20, N1/2 and SW1/4;
- sec. 21, S1/2SE1/4;
- secs. 23 thru 25, 27, and 29;
- sec. 30, lots 1 and 4, E1/2, NE1/4NW1/4, and SE1/4SW1/4;
- secs. 33 thru 35.

T. 20 N., R. 8 W.,
tracts 37, 40, 41, 48, 49, 52 thru 55, 58, 61 thru 69, 73, 77, and 78;
tracts 85, 86, 92, 94 thru 98, 102, 104, and 105.

T. 21 N., R. 8 W.,
secs. 3 thru 9;
sec. 10, N1/2 and SW1/4;
sec. 11, N1/2 and SE1/4;
sec. 13;
sec. 14, E1/2;
secs. 17, 18, and 22 thru 24;
sec. 26, N1/2 and SE1/4;
sec. 34, lots 1 thru 8 and NE1/4;
secs. 35 and 36.

T. 22 N., R. 8 W.,
sec. 7, lots 1 thru 4, SE1/4NW1/4, E1/2SW1/4, NW1/4SE1/4, and S1/2SE1/4;
sec. 17, NW1/4NW1/4, S1/2NW1/4, SW1/4, NW1/4SE1/4, and S1/2SE1/4;
sec. 18;
sec. 20, N1/2 and SW1/4;
sec. 21, SW1/4NE1/4, NW1/4NW1/4, S1/2NW1/4, and SE1/4;
sec. 22, S1/2;
sec. 23, S1/2;
sec. 24, S1/2SW1/4 and S1/2SE1/4;
secs. 25 thru 27;
sec. 28, E1/2;
sec. 31, lots 3 thru 8 and E1/2SW1/4;
secs. 32 thru 35.

T. 19 N., R. 9 W.,
sec. 3, lots 1 thru 4, S1/2NE1/4, S1/2NW1/4, and SW1/4;
sec. 12;
sec. 14, N1/2 and SE1/4;
sec. 15, NW1/4 and S1/2;
sec. 23;
sec. 24, NW1/4 and S1/2;
sec. 27;
sec. 30, lots 1 and 2;
sec. 35.

T. 20 N., R. 9 W.,
sec. 4;
sec. 5, SW1/4;
sec. 6;
sec. 7, lots 1 and 2, E1/2, and E1/2NW1/4;

secs. 8 and 9;
sec. 17, N1/2;
sec. 18, NE1/4;
sec. 30.

T. 21 N., R. 9 W.,
sec. 3, lot 4;
sec. 4, lots 1 and 4.

T. 22 N., R. 9 W.,
sec. 1, SW1/4NW1/4, NW1/4SE1/4, and S1/2SE1/4;
secs. 3 thru 9 and secs. 12 thru 15;
sec. 16, S1/2;
sec. 17;
sec. 18, lots 3 and 4, E1/2, and E1/2SW1/4;
secs. 19 and 20;
sec. 21, NE1/4 and S1/2;
secs. 22 thru 24;
sec. 26, W1/2;
secs. 27 thru 34 and sec. 36.

T. 23 N., R. 9 W.,
sec. 18, SW1/4SE1/4;
sec. 19;
sec. 20, SW1/4NE1/4;
sec. 27, SW1/4NW1/4, SW1/4, and SW1/4SE1/4;
secs. 28 and 30;
sec. 31, lots 1 thru 4, E1/2NW1/4, E1/2SW1/4, and SE1/4;
sec. 33, E1/2;
sec. 34;
sec. 35, SW1/4NW1/4, SW1/4, and SW1/4SE1/4.

T. 17 N., R. 10 W.,
sec. 30, lot 3, NE1/4SW1/4, and N1/2SE1/4;

T. 19 N., R. 10 W.,
sec. 10, SW1/4NE1/4, SE1/4NW1/4, NE1/4SW1/4, and NW1/4SE1/4;
sec. 28, SE1/4SE1/4.

T. 20 N., R. 10 W.,
sec. 1;
sec. 2, lots 1 thru 3, lots 5 thru 19, and S1/2NE1/4;
sec. 3, lots 5 and 6;
sec. 6;
sec. 12, lots 1 thru 4;
secs. 20 and 28;

sec. 30, NE1/4SW1/4.

T. 21 N., R. 10 W.,

sec. 4;
sec. 5, lot 2 and W1/2SW1/4;
secs. 6 thru 9 and secs. 16 thru 30;
sec. 33, lots 1 thru 4;
sec. 34, lots 1 thru 7, NE1/4, NW1/4SW1/4, S1/2SW1/4, and SW1/4SE1/4;
secs. 35 and 36.

T. 22 N., R. 10 W.,

sec. 1 and secs. 3 thru 9;
sec. 10, NW1/4 and N1/2SW1/4;
sec. 11, S1/2;
secs. 12 and 13;
sec. 14, W1/2SW1/4;
sec. 15, S1/2;
secs. 16 thru 19;
sec. 20, SE1/4;
sec. 21, N1/2;
sec. 22;
sec. 23, W1/2NE1/4, W1/2, and SE1/4;
secs. 24 and 25;
sec. 27, S1/2;
sec. 28, NE1/4 and SW1/4;
sec. 30, lots 1 and 2, NE1/4, and E1/2NW1/4;
sec. 34, N1/2 and SW1/4.

T. 23 N., R. 10 W.,

secs. 5 thru 8;
sec. 9, SW1/4 and SW1/4SE1/4;
sec. 13, S1/2NW1/4 and S1/2;
sec. 14, S1/2NE1/4, NW1/4, and S1/2;
sec. 15, NE1/4 and S1/2;
secs. 17 thru 22;
sec. 24, NE1/4 and S1/2;
sec. 25, E1/2;
sec. 27, N1/2 and SE1/4;
sec. 28, N1/2 and SW1/4;
secs. 29 thru 31 and secs. 33 and 34.

T. 24 N., R. 10 W.,

secs. 17 thru 20 and sec. 29;
sec. 30, lot 1, E1/2, E1/2NW1/4, and NE1/4SW1/4;
sec. 31.

T. 15 N., R. 11 W.,

- sec. 6;
- sec. 8, N1/2, N1/2SW1/4, SW1/4SW1/4, and NW1/4SE1/4.
- sec. 9, N1/2NW1/4 and SW1/4NW1/4.

T. 16 N., R. 11 W.,

- sec. 2, lots 1 thru 4, SW1/4, NW1/4SE1/4, and S1/2SE1/4;
- sec. 14, SW1/4;
- sec. 21, SW1/4;
- sec. 22, NE1/4 and SW1/4;
- sec. 26, E1/2NE1/4, W1/2NW1/4, SW1/4, and W1/2SE1/4;
- secs. 28 and 29;
- sec. 30, lots 1 and 2, E1/2NW1/4, and SE1/4;
- sec. 31, lots 1 thru 4, NE1/4, E1/2NW1/4, and E1/2SW1/4;
- sec. 33, N1/2NE1/4, SE1/4NE1/4, W1/2, NE1/4SE1/4, S1/2NW1/4SE1/4, and S1/2SE1/4;
- sec. 34, N1/2, SW1/4, N1/2SE1/4, and SW1/4SE1/4.

T. 17 N., R. 11 W.,

- sec. 2, SE1/4;
- sec. 3, lots 1 and 2 and S1/2NE1/4;
- sec. 4, SE1/4;
- sec. 10, N1/2SW1/4 and N1/2SE1/4;
- secs. 12, 14, and 18;
- sec. 19, lots 3 and 4 and E1/2SW1/4;
- sec. 22, S1/2;
- sec. 24;
- sec. 32, SW1/4;
- sec. 34, NW1/4 and S1/2.

T. 18 N., R. 11 W.,

- sec. 18.

T. 20 N., R. 11 W.,

- sec. 22, NE1/4NE1/4;
- sec. 23, W1/2NW1/4NW1/4;
- sec. 26, E1/2SE1/4.

T. 21 N., R. 11 W.,

- secs. 1 thru 3;
- sec. 4, lots 3 and 4, S1/2NW1/4, and S1/2;
- sec. 5, lots 3 and 4 and S1/2NW1/4;
- sec. 6, lots 1 thru 5, S1/2NE1/4, and SE1/4NW1/4;
- secs. 7 thru 10;
- sec. 11, lot 1, N1/2, SW1/4, N1/2SE1/4, and SW1/4SE1/4;
- sec. 12, lots 10 thru 15, N1/2, N1/2SW1/4, and N1/2SE1/4;

sec. 13, lots 1 thru 4, S1/2NE1/4, S1/2NW1/4, and S1/2;
sec. 14, lot 1, W1/2NE1/4, SE1/4NE1/4, W1/2, and SE1/4;
secs. 15 thru 25;
sec. 26, NE1/4;
secs. 28 and 30.

T. 22 N., R. 11 W.,
secs. 2 and 6;
sec. 10, SE1/4;
sec. 12;
sec. 14, SW1/4;
sec. 18, lots 1 thru 4, E1/2NW1/4, and E1/2SW1/4;
sec. 22;
sec. 24, SW1/4NE1/4 and W1/2;
sec. 26, NE1/4 and S1/2;
sec. 28, W1/2;
sec. 30;
sec. 34, SE1/4.

T. 23 N., R. 11 W.,
secs. 1 thru 4 and sec. 6;
sec. 7, lots 1 and 2, NE1/4, and E1/2NW1/4;
sec. 8, S1/2;
secs. 9 thru 11;
sec. 12, N1/2 and SE1/4;
secs. 13 thru 15, sec. 17, and secs. 21 thru 23;
sec. 24, N1/2 and SE1/4;
sec. 25, NW1/4 and S1/2;
sec. 26;
sec. 27, N1/2 and SE1/4;
sec. 28, NE1/4 and N1/2NW1/4;
sec. 33, S1/2NE1/4, S1/2NW1/4, and S1/2;
sec. 34, S1/2SW1/4;
sec. 35, NE1/4;
sec. 36, S1/2.

T. 24 N., R. 11 W.,
sec. 13, NW1/4;
sec. 14;
sec. 15, lot 1, lots 5 thru 8, lot 10, and S1/2;
sec. 16, lots 10, 13, and 14;
sec. 20, lots 3, 5 and 6;
sec. 21, lots 7 thru 10 and SE1/4;
sec. 22, NE1/4 and S1/2;
sec. 23;
sec. 24, NE1/4 and S1/2;

sec. 25, W1/2;
secs. 26 thru 28;
sec. 29, lots 1 and 2, lots 5 thru 8, lots 10 thru 14, and SE1/4;
sec. 30, lots 6 thru 13;
sec. 31 and secs. 33 thru 36.

T. 15 N., R. 12 W.,
sec. 8, SW1/4NE1/4;
sec. 10, SW1/4.

T. 16 N., R. 12 W.,
secs. 6 and 8;
sec. 10, NW1/4;
sec. 14, NW1/4 and S1/2;
sec. 20, N1/2 and SW1/4;
secs. 22 and 24;
sec. 26, N1/2 and SE1/4;
secs. 28 and 30;
sec. 32, E1/2;
sec. 35, SW1/4.

T. 17 N., R. 12 W.,
sec. 4, SE1/4;
sec. 6, lots 1 thru 5, S1/2NE1/4, and SE1/4NW1/4;
sec. 8, NE1/4 and S1/2;
sec. 10, NW1/4;
sec. 20, W1/2;
sec. 22, N1/2;
sec. 24, NE1/4;
sec. 26, E1/2;
sec. 28, SE1/4;
sec. 30;
sec. 32, W1/2 and SE1/4SE1/4;
sec. 36;
tract 37.

T. 18 N., R. 12 W.,
sec. 1;
sec. 2, lots 1 thru 4, S1/2NW1/4, and SW1/4;
sec. 4, SE1/4;
secs. 11 thru 13;
sec. 14, N1/2;
sec. 16;
sec. 20, N1/2 and SW1/4;
secs. 22 thru 25;
sec. 30, SE1/4;

sec. 32, SW1/4, NW1/4SE1/4, and S1/2SE1/4.

T. 19 N., R. 12 W.,

sec. 1;
sec. 8, NW1/4;
sec. 9, NE1/4;
sec. 16, SW1/4NE1/4, SE1/4NW1/4, NE1/4SW1/4, and NW1/4SE1/4;
sec. 21;
sec. 30, E1/2;
sec. 31.

T. 20 N., R. 12 W.,

sec. 4, lots 5 thru 16;
sec. 5, S1/2NW1/4, SW1/4, and W1/2SE1/4;
sec. 6, lots 3 and 4, lot 8, and lots 9 thru 11;
sec. 8, SW1/4;
sec. 17, NW1/4NE1/4 and N1/2NW1/4;
sec. 18;
sec. 20, SE1/4;
sec. 22, N1/2 and SE1/4;
sec. 26;
sec. 30, lots 3 and 4 and E1/2SW1/4.

T. 21 N., R. 12 W.,

secs. 1 and 4;
sec. 10;
sec. 22, NW1/4;
sec. 24, SW1/4;
sec. 25;
sec. 28, NE1/4 and S1/2;
sec. 31, E1/2SE1/4;
secs. 32 and 34.

T. 22 N., R. 12 W.,

sec. 1, S1/2;
sec. 3, SE1/4;
sec. 4;
sec. 5, SE1/4;
sec. 6;
sec. 7, SE1/4;
sec. 8;
sec. 9, NW1/4 and S1/2;
secs. 10 thru 15;
sec. 17, SW1/4;
sec. 18;
sec. 19, lots 1 and 2, NE1/4, and E1/2NW1/4;

sec. 21, N1/2;
secs. 22 thru 27;
sec. 28, N1/2;
sec. 29;
sec. 30, lots 3 and 4, E1/2SW1/4, and SE1/4;
sec. 33, lots 1 thru 8 and NW1/4;
sec. 34;
sec. 35, N1/2 and SE1/4.

T. 23 N., R. 12 W.,

sec. 1;
sec. 3, lots 5 thru 16;
sec. 4;
sec. 5, lots 9 thru 20;
sec. 6, lots 12 thru 15;
sec. 9, E1/2;
sec. 10, lots 1 thru 8;
sec. 13;
sec. 14, lots 1 thru 8 and NW1/4;
sec. 15, lots 1 thru 8;
sec. 17, lot 5 and W1/2SW1/4;
sec. 18, lots 3, 4, and 6, SE1/4NE1/4, E1/2SW1/4, and SE1/4;
sec. 19;
sec. 20, lots 4 thru 6 and lots 9 thru 16;
sec. 21, lots 1 thru 3 and lots 6 thru 16;
secs. 22 thru 24;
sec. 25, E1/2;
secs. 26 thru 30;
sec. 33, W1/2;
sec. 35, SE1/4SE1/4.

T. 24 N., R. 12 W.,

sec. 35, lots 9 and 10 and lots 13 thru 16;
sec. 36, lots 1 and 2 and lots 5 thru 18.

T. 15 N., R. 13 W.,

sec. 2, lots 3 and 4 and S1/2NW1/4.

T. 16 N., R. 13 W.,

sec. 2;
sec. 10, NW1/4;
sec. 18, lots 1 and 2 and E1/2NW1/4;
sec. 26, NW1/4;
sec. 36.

T. 17 N., R. 13 W.,

sec. 2, lots 1 and 2 and S1/2NE1/4;
sec. 5, lots 3 and 4, S1/2NW1/4, and S1/2;
secs. 10 and 12;
sec. 15, SE1/4;
sec. 19;
sec. 21, NW1/4;
sec. 24, NE1/4 and S1/2;
sec. 26, SW1/4;
sec. 28, SW1/4;
secs. 32 and 33;
sec. 34, NW1/4.

T. 18 N., R. 13 W.,

sec. 1;
sec. 2, lots 1 and 2, S1/2NE1/4, SW1/4, and E1/2SE1/4;
secs. 3, 5, 9, 11, 13, and 15;
sec. 19, SE1/4;
secs. 20, 21, 23, 25, 27, 29, and 31;
sec. 32, NE1/4 and SW1/4;
sec. 33;
sec. 34, W1/2;
sec. 35;
sec. 36, SW1/4.

T. 19 N., R. 13 W.,

secs. 2 and 4;
sec. 6, SE1/4;
sec. 14, NW1/4;
sec. 15, S1/2SW1/4 and S1/2SE1/4;
sec. 18, lots 5 thru 12 and NE1/4;
sec. 19, lot 3, lots 5 thru 8, E1/2, and E1/2SW1/4;
secs. 20 thru 22;
sec. 24, SW1/4;
secs. 28 and 29;
sec. 32, NE1/4, N1/2NW1/4, SE1/4NW1/4, SW1/4, and N1/2SE1/4;
sec. 33;
sec. 34, N1/2 and SW1/4;
sec. 36.

T. 20 N., R. 13 W.,

sec. 4;
sec. 6, lots 6 and 7 and E1/2SW1/4;
sec. 7, lot 2, W1/2SW1/4NE1/4, and SE1/4NW1/4;
secs. 8, 10, 12, 14, 18, 20, 22, 24, 26, 28, and 30;
sec. 32, N1/2;

sec. 34.

T. 21 N., R. 13 W.,

secs. 3 thru 6;
sec. 8, N1/2 and SW1/4;
sec. 9;
sec. 10, NE1/4;
secs. 11 and 13;
sec. 14, lots 1 thru 12;
sec. 15;
sec. 17, N1/2 and SE1/4;
secs. 18, 19, and 21;
sec. 22, N1/2;
sec. 23;
sec. 24, NE1/4 and S1/2;
secs. 25 and 27;
sec. 28, NE1/4 and SW1/4;
sec. 29;
sec. 30, lots 5 thru 8, E1/2NW1/4, and E1/2SW1/4;
secs. 31 and 33;
sec. 34, NW1/4;
sec. 35.

T. 22 N., R. 13 W.,

sec. 1, lots 3 and 4 and S1/2NW1/4;
sec. 3, SW1/4;
sec. 4, lots 3 and 4, S1/2NW1/4, and S1/2;
sec. 5;
sec. 8, NW1/4 and S1/2;
sec. 9, NE1/4 and SW1/4;
sec. 10;
sec. 11, NW1/4 and S1/2;
sec. 12, S1/2;
sec. 13, NE1/4, NE1/4SW1/4, N1/2SE1/4, and SE1/4SE1/4;
sec. 14, N1/2 and W1/2SE1/4;
sec. 15, NE1/4;
sec. 17;
sec. 19, lot 4, NE1/4NE1/4, S1/2NE1/4, E1/2SW1/4, and SE1/4;
sec. 20, W1/2;
sec. 21, N1/2NW1/4;
sec. 23;
sec. 24, N1/2NE1/4, SE1/4NE1/4, NW1/4, and S1/2;
sec. 25, E1/2;
sec. 27, SW1/4;
secs. 28 thru 30;
sec. 31, lots 1 thru 3, E1/2, E1/2NW1/4, and NE1/4SW1/4;

sec. 33;
sec. 34, E1/2;
sec. 35.

T. 23 N., R. 13 W.,
sec. 2, S1/2;
sec. 3, S1/2SE1/4;
sec. 15, S1/2NW1/4 and S1/2;
sec. 20, E1/2SW1/4, and SE1/4;
sec. 21, S1/2;
sec. 22, SW1/4;
sec. 26;
sec. 27, NE1/4 and S1/2;
sec. 28;
sec. 29, NE1/4, NE1/4NW1/4, S1/2NW1/4, and S1/2;
sec. 34;
sec. 35, NE1/4 and SW1/4.

The areas described aggregate 351,479.97 acres.

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Appendix B

Report Summarizing Public Input Received

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**US Department of the Interior
Bureau of Land Management**

Farmington Field Office



**Chaco Area Withdrawal Environmental Assessment
Public Input Period Summary Report**

PUBLIC INPUT SUMMARY REPORT

OCTOBER 2022

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The Bureau of Land Management's mission is to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.

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APPENDIXES

A	Public Input
B	Notice of Intent

ACRONYMS AND ABBREVIATIONS

Full Phrase

BLM	Bureau of Land Management
CARA	Comment Analysis and Response Application
CCNHP	Chaco Culture National Historic Park
CFR	Code of Federal Regulations
CHTA	Chaco Heritage Tribal Association
EA	environmental assessment
FFO	Farmington Field Office
FLPMA	Federal Land Policy and Management Act of 1976
NEPA	National Environmental Policy Act
RMP	resource management plan
UNESCO	United Nations Educational, Scientific, and Cultural Organization

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Chapter I. Introduction

I.1 BACKGROUND

Chaco Canyon is unique in that it contains one of the world's most culturally significant landscapes. Located in the high desert of northwest New Mexico, this valley served as the center of the Chacoan culture for roughly 400 years from 850 to 1250. Today, some of Chaco Canyon is protected as Chaco Culture National Historical Park (CCHNP), which honors the buildings and structures, the landscape of mountains, the mesas, and the sacred places that have deep spiritual meaning to this day. In 1987, the park and related areas were designated as a United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage Site, one of only two dozen sites in the United States.

The Farmington Field Office (FFO) of the New Mexico Bureau of Land Management (BLM) intends to prepare an environmental assessment (EA) to analyze the potential impacts from the proposed 20-year withdrawal of approximately 338,690 acres within a 10-mile radius surrounding CCNHP. The proposed withdrawal would bar new federal oil and gas leasing on those lands for the 20-year time period, during which time, segregation and potential withdrawal would not affect existing valid leases or rights and would not apply to minerals owned by private, state, or tribal entities. The scope of the proposed withdrawal is detailed in **Table I-1**.

Table I-1: Proposed Mineral Withdrawal Scope

Does	Does not
Prohibit new entry to identified public lands for purposes authorized under the Mining Law of 1872	Prohibit entry to identified public lands for purposes authorized under the Materials Act of 1947
Prohibit new entry to identified public lands for purposes authorized under the Mineral Leasing Act of 1920	Impact valid existing rights
Apply to federally owned minerals	Apply to any other minerals than federally owned minerals
	Impede other actions consistent with the FFO's 2003 Resource Management Plan (RMP) and Record of Decision (as amended)
	Create new special management areas or expand Chaco Culture National Historic Park boundaries

Note: Comments that did not address these were considered out of scope and non-substantive.

Public outreach and input gathering are vital to this project. The BLM has engaged the public to obtain initial input before initiating the National Environmental Policy Act (NEPA) process. The input received will assist the BLM in identifying public values, concerns, protections, and issues across the planning area before beginning the development of the EA. This report documents the results of this public input period, which occurred from January 6 through May 8, 2022, and lasted a total of 120 days.

I.2 PURPOSE AND NEED

The purpose of the proposed withdrawal would be to protect public lands and the greater connected landscape of rich Puebloan, Tribal Nations, and cultural legacy in northwestern New Mexico from industrial impacts associated with oil and gas development activities and from adverse effects of locatable mineral exploration and mining, subject to valid existing rights. This proposed withdrawal area holds a

deep meaning for the Indigenous peoples whose ancestors lived, worked, traded, and thrived in this high-desert community.

Existing uses of the public lands may continue in accordance with their terms and conditions (except for the location or relocation of mining claims and the sale of new oil and gas leases) during the segregation period. This includes, but is not limited to, livestock grazing and lawful ingress and egress to any valid or patented mining claims and mineral leases that may exist on these lands. There may be continued use of all public lands and lawful access to nonfederal lands and interest in lands; current recreational uses, including hunting, camping, and day use; and all commercial uses conducted under special use permits. Temporary uses that may be permitted during the segregation period are leases, licenses, permits, rights-of-way, and other uses consistent with the 2003 FFO RMP, as amended.

I.3 OVERVIEW OF THE PUBLIC INPUT PROCESS AND SUMMARY REPORT

Public involvement is a vital and legally required component of the planning process. Input from members of the public helps the BLM to identify significant issues related to a proposed action, vests the public in the decision-making process, and allows for full environmental disclosure. Guidance for implementing public involvement under NEPA is codified in 40 Code of Federal Regulations (CFR) 1506.6. This ensures federal agencies make a diligent effort to involve the public in the NEPA process. This report summarizes the public input process and the comments received during the public input period.

I.4 DESCRIPTION OF THE PUBLIC INPUT PROCESS

As required by NEPA and its public involvement guidance, the BLM solicits comments from relevant agencies and the public, then organizes and analyzes all comments received. The BLM then evaluates the position statement of each comment and extracts the overarching issues that will be addressed during the planning process. These issues define the scope of the analysis for the EA and are used to develop the project alternatives.

Additional opportunities for public input will be made available during the formal public EA comment period.

I.4.1 Notice of Intent

Public input began following publication of the notice of intent, titled “Notice of Proposed Withdrawal and Public Meetings; San Juan County, NM,” in the *Federal Register* on January 6, 2022. The notice of intent initiated the public involvement process for the EA. During this period, the BLM sought public comments to determine relevant issues that could influence the scope of the environmental analysis, including alternatives, and to guide the process for developing the EA.

I.4.2 Project Website

The BLM maintains an ePlanning project website (<https://eplanning.blm.gov/eplanning-ui/project/2016892/510>) with information related to the development of the EA. The website includes background documents, maps, information, and contact information for the BLM planning team.

I.4.3 Public Outreach and Public Meetings

The BLM held five public meetings during the public input period. These meetings were held in an in-person and virtual format to encourage participants to discuss concerns and questions with the BLM. In-

person meetings had various resource stations staffed with BLM resource specialists to answer questions, comments, and concerns from the public. During the in-person meetings, comment cards were available for members of the public to leave written comments.

The virtual meetings began with a PowerPoint presentation describing the purpose of the EA, the project approach, planning criteria, and opportunities for public involvement. Following the presentation, the meetings transitioned to a question-and-answer session, where members of the public could ask questions to the BLM staff. **Table I-2** provides the dates and times of the public meetings.

Table I-2: Public Meeting Dates and Locations

Meeting Date	Meeting Time	Location	Number of Public/Stakeholder Attendees
February 23, 2022	3:00 p.m. to 4:30 p.m.	San Juan College, Henderson Fine Arts Building, Farmington, NM	84
February 23, 2022	6:00 p.m. to 7:00 p.m.	San Juan College, Henderson Fine Arts Building, Farmington, NM	24
February 24, 2022	6:00 p.m. to 7:30	Virtual public meeting	187
April 27, 2022	2:00 p.m. to 7:00 p.m.	San Juan College, Henderson Fine Arts Building, Farmington, NM	31
April 29, 2022	8:00 a.m. to noon	National Indian Programs Training Center, Albuquerque, NM	55

I.4.4 Tribal Consultation

During the public involvement period, the BLM reached out to 30 tribal entities for development of the EA. Tribal consultation for the proposed Chaco withdrawal was initiated on a government-to-government basis by the BLM FFO to various pueblos and tribes of New Mexico and southern Colorado. The BLM FFO sent a letter and map describing the proposed action and inviting consultation with the BLM FFO on January 24, 2022, via certified mail to each of the pueblos and tribes listed in **Table I-3**, with a request for response within 30 days of receipt. A second letter was sent on March 25, 2022. The BLM then held a consultation session from April 27 to April 29, 2022.

Table I-3: Tribal Consultation

Tribe	Person
All Pueblo Council of Governors*	Governors
Eight Northern Indian Pueblo's Council	Governors
Five Sandoval Indian Pueblos	Governors
Jicarilla Apache Tribal Council	President Edward Velarde
Kewa Pueblo	Governor Sidelio Tenorio
Navajo Nation*	President Johnathon Nez
Ohkay Owingeh	Governor Joseph P. Aguino
Pueblo de San Ildefonso	Governor Christopher Moquino
Pueblo of Acoma	Governor Randall Vicente
Pueblo of Cochiti*	Governor Phillip Quintana
Pueblo of Isleta*	Governor Vernon B. Abeita
Pueblo of Jemez*	Governor Raymond Loretto
Pueblo of Laguna*	Governor Martin Kowemy, Jr.
Pueblo of Nambe*	Governor Nathaniel Porter
Pueblo of Picuris	Governor Craig Quanchello

Tribe	Person
Pueblo of Pojoaque*	Governor Jenelle Roybal
Pueblo of San Felipe	Governor Carl Valencia and Director Pinu'u Stout, Department of Natural Resources
Pueblo of Sandia	Governor Stuart Paisano
Pueblo of Santa Ana	Governor Joseph Sanchez
Pueblo of Santa Ana Tribal Historic Preservation Office	Monica L. Murrell
Pueblo of Santa Clara*	Governor J. Michael Chavarria
Pueblo of Taos	Governor Clyde M. Romero
Pueblo of Tesuque	Governor Robert Mora, Sr.
Pueblo of Zia*	Governor Gabriel Galvan
Pueblo of Zuni*	Governor Val Panteah, Sr.
Southern Ute Indian Tribe	Chairwoman Melvin J. Baker
Ten Southern Pueblo Governor's Council	Governors
The Hopi Tribe	Chairman Timothy L. Nuvangyaoma
Ute Mountain Ute Tribe	Chairman Manuel Heart

* Denotes attendance at the Bureau of Indian Affairs/BLM consultation meeting held on April 29, 2022.

I.5 METHOD OF COMMENT COLLECTION AND ANALYSIS

The BLM evaluated and documented all written submissions received on or before May 6, 2022. These are included in this summary report. Any comments submitted after the comment period closed may not be included in this report; however, the BLM will consider them separately.

Comment analysis is used to compile and combine similar public comments into a format that decision-makers can use to consider alternative management actions in a NEPA document. It assists the team in organizing, clarifying, and addressing technical information, in accordance with NEPA regulations. It also aids in identifying the topics and issues to be evaluated and considered throughout the NEPA process.

The comment analysis process includes five main components:

- Developing a comment coding structure
- Using a comment database for comment management
- Reading and coding public comments
- Interpreting and analyzing the comments to identify issues and themes
- Preparing comment summaries

The BLM used the comment analysis and response application (CARA) database to manage all public input. The database stores the full text of all correspondence and allows each submitted input to be coded by topic and issue. Some outputs from the database include tallies of the total number of correspondence and input received, sorting and reporting input by a topic, and demographic information regarding the input sources.

The BLM developed a comment coding structure to help sort comments into logical groups by topics and issues. The coding structure was designed to capture all comment content, rather than to restrict or exclude any ideas. Additionally, the structure was modified to incorporate additional resource areas that remain in scope for the EA.

To ensure that public comments were properly registered and that none were overlooked, the BLM used a multiphase management and tracking system. Written submissions were given a unique identifier and were logged into CARA. Each submission was then reviewed, and individual comments were extracted.

During the public input period, the BLM received 95,350 total submissions. These comment submissions comprised 928 unique written submissions representing 388 substantive comments. Many of the unique submissions shared common issues, which is why the total amount of substantive comments is lower. Of the total comment submissions, 94,442 comments were categorized as form submissions, 70 were from organizations, and 58 were from individuals. Some individual comments may be duplicates based on text formatting and submission errors.

The most common method used to submit comments was submissions through the BLM's CARA; comments were also submitted at public meetings, through the ePlanning project website, through email, or through standard mail. **Table I-4** provides information on the affiliation of unique submissions. Substantive comments are those that inform the BLM of the issues to be considered in the EA, provide information to aid in the development of alternatives, or provide information to consider for the impacts of the alternatives.

Table I-5 provides the specific organizations that submitted comments during the scoping effort. Seventy different organizations provided comments during this timeframe. Some organizations had multiple signers, which are not reflected in **Table I-5**. Form submissions are defined as comments with identical text in the comment submission.

Table I-4: Unique Comment Submissions by Affiliation¹

Affiliation	Number of Submissions	Percentage of Total Submissions
Organizations*	70	54.7
Individuals	58	45.43
Total	128	100

All numbers are approximate.

* Includes counties, state agencies, and other organizations

Table I-5: Unique Submissions by Organization¹

Organization
All Pueblo Council of Governors
Prio-Manso-Tiwa Indian Tribe
Pueblo of Acoma
Pueblo of Cochiti
Pueblo of Isleta
Pueblo of Jemez
Pueblo of Laguna
Pueblo of Nambe
Pueblo of Ohkay Owingeh
Pueblo of Picuris
Pueblo of Pojoaque
Pueblo of Sandia
Pueblo of San Felipe
Pueblo of Ildefonso

Organization
Pueblo of Santa Ana
Santa Clara Pueblo
Pueblo of Santo Domingo
Taos Pueblo
Pueblo of Tesuque
Pueblo of Ysleta del Sur
Pueblo of Zia
Pueblo of Zuni
The Navajo Nation
Ojo Encino Chapter, Navajo Nation
Counselor Chapter HIA-KBHIS
Archaeology Southwest
Breath of My Heart Birthplace
Carbondale Community School
Climate Change Leadership Institute
Earth Neighborhood Productions
EarthKeepers 360
Earthworks
Environment New Mexico
Environmental Action
Food and Water Watch
Friends of the Earth
Grant County Archaeological Society
Kagyü Shenpen Kunchab Buddhist Center
Albuquerque Public Schools' Shiwi'ma Bena:we (Zuni Language) class
National Trust For Historic Preservation
National Wildlife Federation, New Mexico Wildlife Federation,
Native Organizers Alliance
Native Plant Society of New Mexico
Natural Resources Defense Council
New Mexico Environmental Law Center
New Mexico Tech
New Mexico Wild
Public Coalition
Sangre de Cristo Chapter of the National Audubon Society
Southwest Conference of the United Church of Christ
Southwest Research and Information Center
The Council of The 13 Clan Elders
The Pew Charitable Trusts
The San Juan Basin Archaeological Society
The Society for American Archaeology
Waterway Advocates
Western Energy Alliance
Western Environmental Law Center
WildEarth Guardians
Board of County Commissioners of San Juan County, New Mexico
New Mexico Indian Affairs Department
New Mexico State Land Office
State of New Mexico, Energy, Minerals and Natural Resources Department
DJR Energy, LLC
Dugan Production Corporation

Organization

Enduring Resources IV, LLC

Four Corners Economic Development, Inc.

Independent Petroleum Association of New Mexico

New Mexico Oil and Gas Association

Suby Bowden & Associates

¹Some letters were cosigned by multiple entities.

In this report, a *comment submission* refers to a unique letter, email, website entry, or verbal public comment received by the BLM during the public comment period. A *comment* refers to a substantive statement identified within the comment submission. The BLM assigned a code to each comment to identify its general content and to group similar comments. All comments were considered and will be used to identify issues and values to be considered in the EA; however, only those comments determined to be substantive were analyzed.

Substantive comments received during the public comment period do one or more of the following:

- Raise issues the BLM has not considered or reinforce issues the BLM has already identified
- Present information that can be used when the BLM considers the impacts of alternatives
- Raise concerns, with reasoning, regarding public land resources in the planning area
- Question, with reasonable basis, the accuracy of information in an existing report

Substantive comments raise, debate, or question a point of fact or policy. The BLM grouped all substantive comments identified by similar issue topics, and those comments are summarized in **Chapter 3**.

The BLM reviewed each substantive comment to determine whether it pertained to an issue that will be resolved through the current project. Each comment was assigned to one of three classifications, as follows:

1. In-scope general comments related to the project
2. In-scope specific comments related to a resource topic
3. Out-of-scope comments that are not related to the project, that are beyond the scope of the project, or that include national policy or administrative action

All comments within categories 1 and 2 were further classified by commenter affiliation, process category, and issue category, as described in **Chapter 2**. Comments were next entered into the CARA database for analysis.

The results of the comment analysis are described in **Chapter 2**.

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Chapter 2. Summary of Public Input

The BLM received a total of 95,350 submissions during the public input period (see **Table 2-1**). Most comment submissions were form letters, followed by 928 unique individual submissions.

Table 2-1: Submittal Summary by Type

Delivery Type	Number of Submissions
Unique submissions	928
Form letters	94,422
Total	95,350

The BLM received most comment submissions through ePlanning and CARA, followed by those submitted through email and hardcopy comments (**Table 2-2**). After all submissions were collected, submissions that were not identified as form letters were uploaded to the CARA database. **Table 2-2** displays unique submission by delivery type. Form submissions are not included in **Table 2-2** since they are not considered unique comments

Table 2-2: Unique Comment Submissions by Delivery Type

Delivery Type	Number of Submissions
CARA/ePlanning	680
Meetings	58
Email	165
Mail	25
Total	928

2.1 FORM LETTER SUMMARY

In addition to unique submissions, several organizations organized form letter campaigns. In total, the BLM received 94,422 form letter submissions from nine form letter campaigns; details of the form letter submissions are shown in **Table 2-3**, below.

The BLM entered a representative example of each form letter into the CARA database. Substantive comments were categorized as described for unique submissions. Letters that represented slight variations of the form letter without significant additional information were treated as form letters. When additional substantive comments were added to the form letter, these letters were entered into the CARA database as a form letter with added text. The additional substantive comments were categorized according to issue topic categories, as described for unique submissions. Many form comment submissions contained identical language or offered no new solutions other than those that were already presented.

Table 2-3: Form Letter CARA, Hardcopy, and Email Submissions

Form Submissions¹	Number of Submissions
Form 1	5,545
Form 2	7,940
Form 3	2,487
Form 4	766
Form 5	13,712
Form 6 (Sierra Club/Earthworks)	9,173
Form 7 (Environment New Mexico)	38
Form 8	10,016
Form 9	2,367
Form 10	3,806
Form 11	276
Form 12	24
CARA forms	1,810
Other forms (hard copy)	36,462
Total	94,422

¹Forms without an organization listed indicates an original master submittal with the organization listed wasn't found.

2.2 SUMMARY OF COMMENTS

Table 2-4 summarizes the distribution of comments and submissions by issue category. These issue categories are outlined further in **Chapter 3**, which presents summaries of the substantive comments included in **Appendix A**.

Table 2-4: Comments by Issue Category

Issue Category	Number of Individual Inputs	Percentage* of Total Input Coded
NEPA	—	—
Public outreach	3	0.8
Public meetings	2	0.5
General consultation	2	0.5
Tribal consultation	36	9.5
Purpose and need	5	1.3
Range of proposed actions and activities	16	4.2
Best available information and baseline data	2	0.5
Geographic information systems data and analysis	1	0.3
Direct and indirect impacts	6	1.6
Cumulative impacts	11	2.9
Mitigation and monitoring	1	0.3
Level of NEPA analysis needed	8	2.1
Consistency with existing land use plans	3	0.8
Alternatives	—	—
New alternative	10	2.6
BLM alternative	1	0.3
Other laws, regulations, or policies	8	2.1
Federal Land Policy and Management Act of 1976 (FLPMA)	17	4.4

Issue Category	Number of Individual Inputs	Percentage* of Total Input Coded
Issue areas	—	—
Air quality and climate	23	5.9
Water resources	14	3.6
Socioeconomics and environmental justice	42	10.8
Social cost of carbon	4	1.0
Social cost of methane	2	0.5
Cultural resources	58	14.9
Tribal interests	35	9.0
Public health and safety	22	5.7
Biological resources	1	0.3
Wildlife	5	1.3
Vegetation	3	0.8
Recreation	2	0.5
Energy and minerals	1	0.3
Fluid	27	7.0
Rangeland management	—	—
Grazing	1	0.3
Visual resources and dark skies	11	2.8
Infrastructure	5	1.3
Total	388	100

*All percentages are rounded to the nearest one-tenth of 1 percent.

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Chapter 3. Issue and Concern Statements and Comment Summaries

For the purpose of the BLM's NEPA analysis, an "issue" is a point of disagreement or debate with a proposed action based on some anticipated environmental effect. The BLM will use the issues and other information collected in the early planning phases to help formulate a reasonable range of alternative management strategies that will be analyzed during the NEPA process.

The issue statements presented below are preliminary and based on the best information known to date. Issues are separated by which resource areas, uses, or processes the BLM should consider. The BLM also has developed a summary of the comments received that apply to each issue.

After each issue and comment summary, the BLM has provided a description of how the issue will be considered during the NEPA process, such as where the issue will be addressed in the EA. For all issues, the BLM will comply with existing laws, regulations, guidance, and plans, including direction provided in RMPs.

This report does not provide an issue or concern statements or discussions for out-of-scope comments.

Examples of site-specific comments are as follows:

- Requests for surveys or inventories
- Questions about specific treatment areas or location-specific calculations
- Requests for details that would not be feasible to provide at the programmatic level
- Questions about decisions that the BLM would make during project implementation

This report does not provide an issue statement or discussion for out-of-scope comments.

The process of developing the EA will afford opportunities for collaboration with local, state, federal, and tribal governments; land management agencies; public interest groups; and public land users. As a result, these issues and concerns may need to be refined to reflect public comments and concerns.

The comments identified in the public's submissions are summarized in the sections below. The substantive comments have been grouped into topics and summarized to reflect how they will become part of the BLM's issues to address during the planning process.

3.1 NEPA

3.1.1 Public Outreach

Concern: *How will the BLM proactively reach out to stakeholders for input on the proposed EA?*

Comment Summary

Commenters emphasized the importance of outreach to local, tribal, and rural communities when considering all potential impacts. They also requested that public outreach efforts be conducted in both English and Indigenous languages to reach a broader scope of people.

3.1.2 Public Meetings

Concern: Will the BLM host additional in-person meetings with stakeholders who might not have access to the internet?

Comment Summary

A commenter suggested that public meetings be held both in person and digitally to accommodate a larger portion of the public and to help serve populations that do not have access to internet service. The commenter suggested additional meetings for more public engagement.

Concern: Virtual public meetings are not adequate for meaningful participation with interested stakeholders for the EA.

Comment Summary

Commenters expressed concern about translation issues and the disregard for public voices. In addition, commenters expressed concern that comment protocols are changed too often and without frequent or adequate notice to the public. A commenter recommended that additional time be allowed for future commenter public speaking.

3.1.3 General Consultation

Concern: What stakeholders will the BLM collaborate with during the EA? How will the BLM involve these stakeholders in the development of the EA?

Comment Summary

Commenters encouraged the BLM to consult with all relevant stakeholders in the decision-making process. They urged the BLM to partner with tribal and local organizations to protect critical resources and human health of the Chaco area.

3.1.4 Tribal Consultation and Issues

Concern: Virtual public meetings are inadequate for proper government-to-government consultation with tribal nations and members because virtual meetings were not an adequate meeting format.

Comment Summary

Commenters noted that the tribal meetings held by the BLM were not accessible for all tribal members and that, because BLM's tribal consultation is lacking, tribal people do not have adequate knowledge of the proposed withdrawal or historic oil and gas development effects.

Concern: How will government-to-government consultation occur, and which interested parties will be consulted during this NEPA process?

Comment Summary

Commenters emphasized there are multiple tribal interests and consultation requirements in the area and suggested that the BLM should engage in more meaningful tribal consultation, including free, prior, and informed consent. This consultation should be extended to traditional Navajo chapters, the Navajo Nation, the All Pueblo Council of Governors, pueblos, and all tribes who trace lineage to these sacred lands or Chaco culture.

One commenter suggested that the BLM coordinate with the Heritage and Historical Preservation Department of the Navajo Nation. Other commenters suggested that the BLM consider the

ethnographic report being developed by the Chaco Heritage Tribal Association (CHTA) and Navajo Nation and consult with the affected tribes for other ethnographic studies before taking any further action.

Concern: How will the BLM consult and incorporate local tribal land use plans, documents, or policies in the development of the EA?

Comment Summary

Commenters suggested that the BLM consult with tribes for all tribal documents related to land management plans, tribal plans, cultural surveys, guidelines, regulations, and tribe-specific requirements. One commenter noted that the BLM-administered lands within the proposed withdrawal area are within the contiguous boundaries of the Navajo Eastern Agency and suggested that the Navajo Nation's planning and consulting mechanisms would apply.

One commenter noted that there may be past tribal testimonies from other local tribal projects that could be relevant to the proposed project. The commenter encouraged the BLM to consult with tribal affiliations to obtain and incorporate this information in the EA.

3.1.5 Purpose and Need

Concern: How will the BLM ensure that the EA's purpose and need are better aligned with overall tribal interests and mineral rights?

Comment Summary

Commenters suggested that the purpose and need must be more clearly defined to state the overall purpose and goal of the withdrawal and to consider tribal interests. One commenter recommended that the project's purpose and need are reducing the number of oil and gas leases by no longer granting leases in the area. They recommended that the BLM redefine the purpose and need to ensure leases are not harmed.

3.1.6 Range of Proposed Actions and Activities

Concern: Why did the BLM select a 10-mile buffer zone?

Comment Summary

Commenters expressed concern over the scale of the proposed actions and activities and recommended a smaller buffer area. They also asked the BLM to clarify and provide the rationale for selecting a 10-mile buffer zone.

Concern: Will the BLM consider a new leasing moratorium and larger buffer zone under the actions of the proposed activities?

Comment Summary

Commenters suggested that the BLM implement a leasing moratorium on all new leasing and withdrawal lease sales during the process.

Commenters suggested a larger proposed buffer zone and that the BLM consider all options in the EA's alternatives development.

3.1.7 Best Available Information and Baseline Data

Concern: *How will the BLM incorporate the best available information and baseline data in the proposed action, range of alternatives, and resources?*

Comment Summary

One commenter cited various journals citing the health effects of living in proximity to oil and gas extraction sites. The stated effects range from birth defects to higher stress rates. Another commenter cited scientific research to support the proposed buffer, noting groundwater resources within the buffer zone. Commenters urge the BLM to incorporate updated baseline data in the development of the EA.

3.1.8 Geographic Information Systems Data and Analysis

Concern: *How will the EA use up-to-date maps and data to effectively display the BLM-administered land, Navajo Nation, and other tribal nations' boundaries in all maps for the EA?*

Comment Summary

One commenter noted that existing maps available online fail to show the Navajo Chapter boundaries and asked the BLM to include the boundaries in the decision-making.

3.1.9 Direct and Indirect Impacts

Issue: *How do oil and gas developments directly and indirectly impact resources such as wildlife, water, cultural areas, and air quality?*

Comment Summary

Commenters noted that oil and gas development results in light pollution, noise from compressors and drilling operations, dust and traffic, and surface disturbance that would directly or indirectly affect wildlife, cultural resources, water resources, recreation uses, air quality, climate, and environmental justice communities. These impacts should be included in the analysis.

3.1.10 Cumulative Impacts

Issue: *What are the cumulative impacts of oil and gas development activities on other sensitive resources, such as wildlife, water, cultural areas, and air quality?*

Comment Summary

Commenters requested that the BLM analyze the cumulative impacts of oil and gas activities on public health, cultural resources, paleontological resources, water resources, air quality, climate, and environmental justice communities.

One commenter noted that cumulative health risks and impacts can arise from cumulative pollution exposures over time and from compounding structural, social, and economic factors; the commenter implored the BLM to fully analyze these risks in the area.

Concern: *How will the BLM consider the short- and long-term cumulative impacts of additional oil and gas leasing?*

Comment Summary

Commenters requested that the BLM analyze the additive and multiplicative impacts of short- and long-term greenhouse gas emissions from energy development.

3.1.11 Level of NEPA Analysis Needed

Concern: The BLM should use an environmental impact statement to analyze any cumulative impacts and reduce duplicative analysis more effectively.

Comment Summary

One commenter recommended that the BLM implement a programmatic environmental impacts statement for the proposed withdrawal to reduce duplicative analyses and address cumulative impacts more uniformly.

Concern: How will the BLM use this EA to develop and incorporate a comprehensive landscape-level planning process?

Comment Summary

Commenters requested that the BLM implement a comprehensive landscape-level planning process that includes the proposed withdrawal and cumulative impacts on the region. One commenter suggested that sites are already subject to site-specific NEPA regulations, and a large analysis is not warranted.

3.1.12 Consistency with Existing Land Use Plans

Concern: Will the BLM develop a RMP in this proposed effort to better plan for the long-term success of the area?

Comment Summary

Commenters requested that the BLM draft a new RMP because they feel the old RMP is outdated and does not properly reflect the current condition of the resources. The new RMPs should account for new methods of drilling, cultural resources, climate change, cumulative impacts, and other important resources.

Concern: The BLM should incorporate all relevant local, tribal, and state plans in the development of the EA.

Comment Summary

Commenters requested that the BLM follow all local, tribal, and state regulations when analyzing the potential impacts of the withdrawal.

3.1.13 Alternatives

Concern: What potential alternatives will the BLM consider?

Comment Summary

Commenters requested that the BLM formulate a reasonable range of alternatives that examines and differentiates the impacts of the no-action and action alternatives on separate resources. Commenters expressed the need for alternatives that protect, restore, and enhance the environment while maximizing the need for environmental benefits and multiple uses. Commenters requested that the range of alternatives be compatible with the project's purpose and need.

Commenters offered several recommendations for consideration in the range of alternatives for the EA. Some examples include, but are not limited to:

- An expanded 10-mile buffer alternative
- A no-action alternative

- A no-leasing alternative
- A 5-mile buffer alternative
- An alternative that balances the socioeconomic interest of impacted stakeholders with the need to preserve the landscape

3.2 REGULATIONS, LAWS, AND POLICIES

Concern: *How will the proposed withdrawal and EA adhere to sections 169A, 169B, and 110(a)(2)(j) of the Clean Air Act?*

Comment Summary

The BLM must abide by sections 169A, 169B, and 110(a)(2)(j) of the Clean Air Act, which are designed to protect Class I areas from impairment due to human-made air pollution. A commenter mentioned these sections because various Class I areas are in or adjacent to the proposed withdrawal.

A commenter recommended the BLM review New Mexico Executive Order 2019-02 to ensure consistency between plans and to incorporate local and New Mexico state laws.

Concern: *The proposed withdrawal violates the Mining Act of 1872, the Minerals Leasing Act of 1920, and the Energy Policy Act of 2005 because it does not encourage the beneficial use of public land.*

Comment Summary

A commenter reiterated that the Mining Act of 1872, the Minerals Leasing Act of 1920, FLPMA, and the Energy Policy Act of 2005 require beneficial use of natural resources, and the withdrawal disproportionately favors certain resources.

3.3 FLPMA

Concern: *How will the BLM comply with the FLPMA's multiple-use mandate to ensure that critical resources are protected, while also safeguarding the economic interests of impacted communities?*

Comment Summary

Commenters noted that the proposed withdrawal would be consistent with the Secretary of the Interior's congressionally delegated authority under FLPMA. The proposed withdrawal would help meet the multiple-use requirements, and it would prevent "unnecessary and undue degradation." In addition, large-scale withdrawals for resource protection have been historically upheld by the Ninth Circuit Court.

Commenters noted that FLPMA limits withdrawals to 20 years, but the BLM can exercise its authority to suspend leases or transfer lands to the National Park Service, Bureau of Indian Affairs, and affected tribes.

Concern: The BLM must include a robust social and economic analysis of all potential impacts on mineral owners, lessees, and local governments as required under FLPMA.

Comment Summary

One commenter noted that the BLM should include an analysis of the social and economic impacts on mineral owners (including allottees), lessees, and state and local governments to comply with the FLPMA's requirements.

Concern: How will the BLM comply with FLPMA's tribal requirements during the development of the EA?

Comment Summary

Commenters emphasized that under FLPMA, the BLM is required to consult with and account for multiple uses on tribal lands where any mineral action is occurring. They recommended that the BLM adhere to all relevant portions of FLPMA related to tribal consultation and collaboration.

3.4 ISSUES

3.4.1 Air Quality and Climate Change

Issue: What are the potential direct, indirect, and cumulative effects of oil and gas development on air quality, viewsheds, and public health in the planning area?

Comment Summary

Commenters noted that oil and gas production leads to increased volatile organic compounds, nitrous oxides, and sulfur dioxide emissions. These are components of ozone that, at increased concentrations, lead to increased rates of climate change. Commenters noted that increased oil and gas extraction leads to decreased air quality that causes health problems within the community and expressed concern regarding the lack of disclosure of these impacts. They requested that the BLM consider and analyze the potential direct, indirect, and cumulative air impacts in the proposed withdrawal zone.

3.4.2 Water Resources

Issue: How does oil and gas development impact surface water, groundwater, and sensitive aquatic and riparian areas? How will the EA address these impacts?

Comment Summary

Commenters suggested that the BLM consider and analyze the potential direct, indirect, and cumulative impacts on groundwater, surface water, and water quality from past, present, and future oil and gas development.

Concern: Are there any specific water-related plans the BLM should consider for the development of the EA?

Comment Summary

Commenters suggested that the BLM use the Navajo Nation Aquifer Protection Plan and existing groundwater models in the water analysis.

3.4.3 Socioeconomics and Environmental Justice

Issue: How will the proposed withdrawal's closure impact mineral owners, allottees' rights, and the local government's ability to generate income?

Comment Summary

Commenters suggested that the BLM should consider the impacts on tribes, low-income populations, and minority populations from losing oil and gas income associated with the proposed withdrawal because many locals rely on that income.

Issue: What are some of the socioeconomic impacts of the proposed withdrawal on the greater Chaco area?

Comment Summary

Commenters noted that pollution from oil and gas production will negatively affect tourism in the area and the local economy. Therefore, the BLM needs to analyze oil and gas production's impacts on tourism and the local economy.

Issue: What are the proposed withdrawal's direct, indirect, and cumulative impacts on environmental justice communities in the planning area?

Comment Summary

Commenters requested that the BLM analyze the direct, indirect, and cumulative impacts of environmental justice and how other resources intersect with environmental justice communities under all potential alternatives.

Issue: How will the socioeconomic analysis in the EA incorporate the social cost of carbon in its development and results?

Comment Summary

The BLM should include the social cost of carbon calculations in its review, so the public can propose substantive comments and suggestions in their evaluation of greenhouse gases.

Issue: How will the socioeconomic analysis in the EA incorporate the social cost of methane in its development and results?

Comment Summary

The BLM should include the social cost of methane calculations in its review, so the public can propose substantive comments and suggestions in their evaluation of greenhouse gases.

3.4.4 Cultural Resources

Issue: How will the proposed withdrawal account for various significant cultural resources that may not accurately be reflected in the BLM's records?

Comment Summary

Commenters noted that a significant number of cultural sites have been discovered, citing studies by Archaeology Southwest; however, less than 20 percent of the area in the proposed 10-mile buffer zone has been archaeologically surveyed. In addition, until very recently, little ethnographic work has been undertaken with any of the associated tribes. Without comprehensive data and consultation, the risk of mineral development impacting a sacred or cultural site is very high. Commenters noted that the cultural resources in Chaco Canyon are not just archaeologically significant; they have a spiritual value

that connects Native people to the land. Commenters urged the BLM to consider and review existing cultural data in the development of the EA and collaborate with tribes to identify any potential data gaps.

Commenters suggested that the BLM update Class I cultural surveys, coordinate with the National Park Service, and complete tribal consultation before taking leasing actions in the planning area.

Issue: How will the proposed withdrawal impact existing cultural resources in the planning area?

Comment Summary

Commenters noted that cultural resources, including traditional and rare plants and prehistoric roads, have been previously disturbed in the area and would be significantly affected by continued oil and gas development. They also suggested that the BLM consider a landscape approach when analyzing possible effects on cultural resources.

3.4.5 Tribal Interests

Issue: How will the proposed withdrawal affect different tribes' socioeconomic, cultural, and social interests?

Comment Summary

Commenters supported the proposed withdrawal because it would protect valuable cultural, archaeological, and sacred resources. They recommended that the BLM keep tribes involved in the decision process to create effective, long-term solutions. Some of these concerns are reflected in **Section 1.4.4, Tribal Consultation**.

Commenters expressed concern that the proposed withdrawal would disproportionately harm allotment owners by creating a patchwork of lands that would inhibit their ability to develop minerals. They suggested that the BLM further consult how the proposed withdrawal would impact Navajo Nation allottees and adhere to BLM Handbook 1780. Commenters noted there are around 54 allottees in the area that should be considered.

Concern: The BLM should facilitate additional meetings with tribal stakeholders and interests to better understand the proposed withdrawal and proposed impacts.

Comment Summary

Commenters suggested the BLM should facilitate meetings between the All Pueblo Council of Governors and the Navajo Nation regarding the location of certain tribal allotments to better understand how the proposed withdrawal would affect parcels. The BLM should ensure that these parcels are addressed in its analysis.

3.4.6 Public Health and Safety

Issue: What are the potential public health impacts of oil and gas development, and will the proposed withdrawal improve public health in the planning area?

Comment Summary

Commenters expressed concern regarding the effects of oil drilling and mining on human health. They requested that the BLM analyze these effects and incorporate studies that demonstrate these effects, including disproportionate impacts on low-income communities. Commenters suggested that the BLM consider long-term impacts from oil and gas, including their impacts on climate change and health, and consider how these impacts have already affected tribes.

3.4.7 Biological Resources

Issue: How will the proposed withdrawal protect critical wildlife species in the planning area?

Comment Summary

Commenters noted that the park and surrounding areas support various microclimates and diverse plant and animal species, such as elk, bobcats, porcupines, over 100 bird species, and other species. Commenters noted that numerous species live in the Chaco area and use the area as a migration corridor. In addition, the area includes critical habitats. Continued oil and gas development would result in effects that cannot easily be reclaimed, such as habitat fragmentation. Commenters urged the BLM to review how the proposed withdrawal would impact wildlife species.

Issue: How will the proposed withdrawal protect vegetation species in the planning area?

Comment Summary

One commenter expressed concern regarding native plant communities' health. These vegetation communities are impacted by increased dust, increased noise levels, and degraded ozone. One commenter noted that the proposed withdrawal would benefit rare plant communities. Commenters emphasized the need to examine how the proposed withdrawal would impact vegetation species.

3.4.8 Recreation

Issue: How will the proposed withdrawal impact recreation access and opportunities in the planning area?

Comment Summary

Commenters expressed concern regarding the loss of access to recreation in the park from the proposed withdrawal. They requested clarity around recreation access and an analysis of potential impacts on recreation from the proposed withdrawal.

3.4.9 Energy and Minerals

Issue: How will the proposed withdrawal impact the Navajo Nation's ability to manage and regulate mineral development on their proposed allotments?

Comment Summary

One commenter noted that any withdrawal requirements imposed by the BLM must also not limit the State of New Mexico's or the Navajo Nation's ability to manage and regulate mineral development on the lands and minerals subject to their respective jurisdictions. Commenters suggested that the BLM consider how the rights and economic interests of Indian landowners would be affected by the withdrawal. Due to the checkerboard landownership pattern of allottee minerals, contiguous horizontal drilling requirements, geology restraints, and cost recovery needs, the allottees' minerals cannot be developed without Mineral Leasing Act rights-of-way use within the proposed withdrawal area.

A commenter recommended that the BLM explore opportunities to assist Navajo allottees on how not to develop oil and gas development on or near their Indian allotments rather than disregarding Navajo objections.

Concern: What is the mineral potential of the resources in the proposed withdrawal zone?***Comment Summary***

Commenters noted that the development potential for oil and gas resources in the area is low to moderate, and more productive areas to the north and northeast of the proposed 10-mile buffer have already been developed.

3.4.10 Lands and Realty***Issue: How will the BLM consider land transfers for landowners with existing rights?******Comment Summary***

Commenters noted that the proposed withdrawal either would or would not affect valid existing rights for non-public landowners. One member suggested that the BLM transfer the proposed withdrawn lands to the adjacent landowner.

Issue: How are land acquisitions compatible with the Navajo Agency Land Consolidation Plan?***Comment Summary***

One commenter expressed concern regarding possible inaccuracies for acreages and statuses of the land listed on the January 6, 2022, *Federal Register* notice and shown in the Appendix B Chaco Culture National Historic Park Area Withdrawal map. In addition, the proposed withdrawal could conflict with the Eastern Navajo Agency land consolidation plan. See **Section 3.4.5**, Tribal Interests, for a further explanation of these concerns.

3.4.11 Visual Resources and Dark Skies***Issue: How will the proposed withdrawal impact the planning area's visual resources and dark skies?******Comment Summary***

Commenters expressed concern regarding air pollution and light pollution from oil and gas development that negatively affect star gazing and nocturnal animals. They requested that the BLM do a viewshed and audioscape analysis before any further action is taken.

3.4.12 Infrastructure***Issue: How will the proposed withdrawal limit public access to power and water utilities?******Comment Summary***

Commenters expressed concern that the restrictions on infrastructure would inhibit public access to power and water.

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Appendix A

Public Input

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Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Richardson	B	N/A	Public outreach	A partnership should be made to see that visible progress comes from allowing this buffer zone to be put up, e.g., ensuring that local broadband is put in that allows local people to fully participate in the internet world and that long-promised water from the San Juan River finally makes it to the Chaco region.
Tsodie	Kirena	Southwest Research and Information Center	Public outreach	The BLM should vigorously conduct community outreach, public comments, and public meetings in English and Indigenous languages to gain a better understanding on communities' needs, concerns, and solutions. Incorporating these into decision making and policies should utilize the requirements of Free, Prior, and Informed Consent related to the United Nations Declaration on the Rights of Indigenous People. Community involvement in developing a new resource management plan will allow for a broader landscape protection and is crucial for preserving Chaco Culture from future natural resource development. The BLM is obligated to genuinely collaborate with tribal government, local environmental justice groups, and rural communities for Greater Chaco landscape management or stewardship and could mitigate concerns by impacted communities.
Beasley	Allyson	Western Environmental Law Center	Public meetings	To that end, we also offer some concrete suggestions for removing barriers to meaningful involvement and meaningful Tribal consultation in subsequent meetings and comment processes, particularly for those in frontline communities. Barriers to meaningful involvement that BLM should keep in mind may include, but are not limited to, language barriers, lack of transportation, lack of reliable internet access, a prioritization of written comments over spoken word, lack of appropriate translation and interpretation, and lack of information publicized via linguistically and culturally relevant, widely-accessible channels. To address these barriers, BLM should, in all public meetings, offer simultaneous interpretation and translation, hold meetings in places that are accessible to members of frontline communities (this means accessible locations, and accessible facilities etc. for those individuals with disabilities, the elderly, those without access to transportation, and those with child care needs). Also, if it sets limits on the comment length per individual in public meetings, BLM should set a limit long enough to allow for frontline, environmental justice perspectives--not just descriptions of project plans already underway--to be fully heard.20 20 In order to
FORM 11	Master	N/A	Public meetings	The public meetings for the mineral withdrawal were held during weekdays during work hours and were held in areas one to two hours' drive from Chaco. These meetings lack attendance accessibility and still do not abide by the publics' wish for meaningful consultation.
Plucinski	Melanie	Native Organizers Alliance	General consultation	Consultation and engagement with grassroots community members is necessary going forward, with the guarantee that their concerns are incorporated into the decision-making and policy-making.
Tsodie	Kirena	Southwest Research and Information Center	General consultation	For over a century, rural and vulnerable communities, especially Indigenous communities, have significant health and safety risks from natural resource extraction and mining. The BLM must authentically partner with tribal governments and local grassroots environmental organizations to protect the living and ancestral culture of Indigenous peoples, the environmental health, and the physical and spiritual wellness of communities in the Greater Chaco region.
Atencio	Mario	N/A	Tribal consultation	The agencies must have discussion on how they can embrace the United States supported nations survival, free prior informed consent (FPIC). The agencies need to communicate how latest tribal consultation executive order and/or memos - communications are being included into their decision-making process. Justice 40, detailed plan to compare tribal consultation, memo to inched ITEK, and paper outreach to chapter communities. Listening sessions are NOT consultation. This process has failed the simple allottees in the counselor. Ojo Encino and Torreon/Starlake have not been consulted and BIANRO and BLM FFO, failed in their jobs.
Beasley	Allyson	Western Environmental Law Center	Tribal consultation	Commenters emphasize again that BLM must go beyond minimum legal requirements of the NHPA with respect to consultation with Tribes and consulting parties in order to truly Honor Chaco.322 Commenters also emphasize that BLM should approach NHPA Section 106 consultation at the landscape level. 322 See, e.g., Exhibit 1, Atencio et al, at 119-121.
Beasley	Allyson	Western Environmental Law Center	Tribal consultation	In this process, too, we urge BLM to ensure just treatment and meaningful involvement 5 of frontline people and communities throughout the process, including meaningful Tribal consultation,6 and to adhere to the principles of Free, Prior and Informed Consent.7 4 All scoping, draft EA or EIS, protest, and supplemental comments concerning BLM oil and gas lease sales, drilling permits, and resource management plans/plan amendments managed by the BLM Farmington Field Office or Rio Puerco Field Office, submitted by Western Environmental Law Center et al. and/or WildEarth Guardians et al. are incorporated by reference as well. 5 "Fair treatment" and "meaningful involvement" represent the twin pillars of environmental justice as defined by the U.S. Environmental Protection Agency ("EPA"). As defined by EPA, "environmental justice" means "the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, in the development, implementation, and enforcement of environmental laws, regulations, and policies." See Environmental Protection Agency, Environmental Justice, www.epa.gov/environmentaljustice (last visited May 2, 2022). However, Commenters are using "just treatment" here, expanding on the principle of "fair treatment," in alignment with the White House Environmental Justice Advisory Council Recommendations. See White House Environmental Justice Advisory Council (WHEJAC) Final Recommendations, https://www.epa.gov/sites/default/files/2021-05/documents/whiteh2.pdf at 79, 80, 81 (defining environmental justice, just treatment, and meaningful participation). [Hereinafter WHEJAC Final Recommendations], attached as Exhibit 2. 6 Meaningful Tribal consultation includes, but should not be limited to, the minimum legal requirements of the National Historic Preservation Act ("NHPA") Section 106. It necessitates more than merely after-the-fact "input" on decisions already made. 7 The duty to obtain free prior and informed consent from Indigenous peoples is recognized by the International Labour Organization Convention ("ILO") 169 and the U.N. Declaration on the Rights of Indigenous Peoples ("UNDRIP"), Articles 10, 11, 19, 28, 29, and 32 (Articles 19 and 32 also refer to the duty to consult). See UN General Assembly, United Nations Declaration on the Rights of Indigenous Peoples : resolution / adopted by the General Assembly, 2 October 2007, A/RES/61/295, available at: https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf Attached as Exhibit 3; Free, Prior and Informed Consent (FPIC) is embedded in the right to self-determination. "The duty of States to obtain Indigenous Peoples' FPIC entitles Indigenous people to effectively determine the outcome of decision-making that affects them, not merely a right to be involved." UN Expert Mechanism on the Rights of Indigenous Peoples, Final report of the study on indigenous peoples and the right to participate in decision-making (August 17, 2011), see especially para. 21. Attached as Exhibit 4.
Beasley	Allyson	Western Environmental Law Center	Tribal consultation	Section 106 has been characterized as a "stop, look, and listen" statute. Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.3d 800, 805 (9th Cir. 1999). Section 106 consultation must be performed at a time when the full range of avoidance and mitigation measures is still available to a federal agency proposing an undertaking. 36 C.F.R. § 800.1(c). "[P]roject planning activities" that "restrict the subsequent consideration of alternatives to avoid, minimize or mitigate the undertaking's adverse effects on historic properties" can occur only after the Section 106 consultation is complete. Id. Therefore, BLM must conduct a Section 106 consultation concerning the effects of Mancos shale development on the Greater Chaco Landscape323 at a time when the full range of development options, including withdrawing certain lands from leasing, are still available to BLM. See Montana Wilderness Ass'n v. Fry, 310 F. Supp. 2d 1127, 1152-3 (D. Mont. 2004). 323 The "Greater Chaco Landscape" includes the Park, most of the Chaco Culture World Heritage Site, several of the satellite villages (known as Chacoan Great House Communities), other resources affiliated with Chaco Canyon that have been formally designated by either Congress or BLM, and the Great North Road, which once linked Chaco Canyon with a settlement approximately 55 miles to the north known today as Aztec Ruin. The World Heritage Site designation is not limited to the Park but also includes four Chacoan Outliers (Pierre's Site, Halfway House, Twin Angels, and Aztec Pueblo) located along the North Road and two Outliers (Kin Nizhoni and Casamero) along the South Road.
Beasley	Allyson	Western Environmental Law Center	Tribal consultation	Affirmatively provide opportunities for meaningful Tribal consultation, and meaningful involvement in--which includes the ability to meaningfully influence17-- all agency decision-making that affects the people, communities, and landscape of Greater Chaco, including but not limited to what is required by the National Environmental Policy Act ("NEPA") the Federal Land Planning and Management Act ("FLPMA"), and the National Historic Preservation Act ("NHPA"). 17 See WHEJAC Final Recommendations, Exhibit 2, at 81 (defining meaningful involvement)
Begaye	Adella	N/A	Tribal consultation	Provide adequate education on the proposed to the community/ the native people. So the people can understand to give free prior consent.
			Tribal consultation	We feel like there has been a consistent inconsistent Tribal Consultation process under NHPA Section 106, and also NEPA. Therefore, we support the efforts to conduct that meaningful Tribal Consultation and honor the Chaco process.
				In previous webinars we have experienced the interaction of former Governors, Tribal Historic Preservation Officers, and APGC leadership. I have, in the past, felt a bit patronized for the lack of tribal input due to the rigorous and streamlined schedules for processes that don't really align with cultural calendars. Cooperating Agencies, such as APCI, have not had the opportunity to comment on those rigorous timelines for a draft PA, or any other sort of process concerning that RNPA process.
Bernal	Julia	Sandia Pueblo		We believe that meaningful Tribal Consultation isn't stalling any sort of process. It's in addition to honoring Chaco, which this initiative is about.
Bernal	Julia	Sandia Pueblo	Tribal consultation	I would also like to highlight that the public tribes have been utilizing the United Nations' explication on the rights of indigenous people, to assert their internal sovereignty, with that as the supreme form of Informed Consent. This must also be included in the Tribal Consultation process, so that each tribe and their community members have the necessary participation in federal processes.
Cowan	Emery	N/A	Tribal consultation	This withdrawal presents the BLM with the opportunity to fulfill the Joint Secretarial Order on Fulfilling the Trust Responsibility to Indian Tribes in the Stewardship of Federal Lands and Waters and President Biden's Executive Order on Tribal Consultation and Strengthening Nation-to-Nation Relationships. Specifically, I would urge the agency to honor the following principles as it goes about the withdrawal decision and the management plan update process: Ensure that all decisions by the Departments relating to Federal stewardship of Federal lands, waters, and wildlife under their jurisdiction include consideration of how to safeguard the interests of any Indian Tribes such decisions may affect. Pursue and create opportunities to collaborate in the co-stewardship of Federal lands and waters under the Departments' jurisdiction Collaborate with Indian Tribes to ensure that Tribal governments play an integral role in decision making related to the management of Federal lands and waters through consultation, capacity building, and other means consistent with applicable authority.
Cowan	Emery	N/A	Tribal consultation	Engage affected Indian Tribes in meaningful consultation at the earliest phases of planning and decision-making relating to the management of Federal lands to ensure that Tribes can shape the direction of management. This will include agencies giving due consideration to Tribal recommendations on public lands management. Consider Tribal expertise and/or Indigenous knowledge as part of Federal decision making relating to Federal lands, particularly concerning management of resources subject to reserved Tribal treaty rights and subsistence uses Indigenous organizations are calling for this withdrawal to be followed by landscape-level policies and regulations that will protect and restore the cultural integrity of all Greater Chaco and its communities, and as a member of the public I strongly support our federal government placing these calls as its highest priority.
Davis	Carol	Native Organizers Alliance	Tribal consultation	Very basically, the 20-year mineral rights leasing withdrawal is a first step toward Honoring Chaco. Like many Indigenous and Tribal communities across the nation, we want recognition of our inherent right for inclusion and transparency in the whole process of energy development occurring within and near our communities. Currently, our people face technology and communication infrastructure obstacles that prohibit our ability to equitably engage in BLM's public participation process. Despite these challenges, the federal process for "Tribal Consultation" needs to reflect the inclusion of those directly impacted by development to ensure free, prior and informed consent is secured.
Eaton	Marietta	N/A	Tribal consultation	-Commit to and be transparent to improve tribal consultation when cultural resources or Traditional Cultural Properties are present, codify field visits with oil-gas operators, Tribes and Tribal Members living within, and potentially affected by additional development, including transportation, noise, air quality, viewshed, and light pollution (to protect night skies).
Eaton	Marietta	N/A	Tribal consultation	Tribal consultation is particularly important across the vast cultural landscape of the Chaco region, and beyond, for all BLM ground disturbing activities. Multiple contemporary tribes, affiliated with this area for generations, consider the proposed withdrawal zone within the GCL to remain critically important to their communities and practices today.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Eaton	Marietta	N/A	Tribal consultation	The Greater Chaco Landscape has a history of regular important discoveries and knowledge that is the heritage of the United States. Tribal consultation is legislated part of this process and must be conducted with sincere interest, not simply given lip service. The Greater Chaco Landscape clearly needs to be a considered as a framework for management in this process with concrete outcomes incorporated into the final decision by the FFO. Ethnographic studies should be collected and incorporated into management decisions. Without this knowledge taxpayers fund uninformed decisions and the elimination of traditional cultural and ecological knowledge would render the decision incomplete. Not to mention a loss of texture and depth in understanding our public lands.
Fitch	Ken	N/A	Tribal consultation	The names we recognize today in association with the multitude of cultural sites may resonate with very different names in languages and oral traditions, so the information relative to the significance and the need for withdrawal from destruction may not exist in readily available "documents." As a result, this repository of history and culture may not be fully referenced in 106 considerations, information that actually might contain information far beyond the information consigned to the written word documentation. It was also mentioned in the Zoom forum that there were testimonies from "elders" no longer with us in previous Project Comment forums for other projects , that may be extremely relevant to the considerations of this action, and retrieval of some of those comments might be of some importance. It may be necessary, and indeed a responsibility, to go to the Pueblos directly to engage, but optimal engagement may not take the form of the rigorous meeting formats that require a certain kind of engineering.
Garcia	Raena	Friends of the Earth	Tribal consultation	Pause all leasing and permitting until land management decisions prioritize the protection of the integrity of the cultural landscape that includes tribally led ethnographic studies and meaningful Tribal consultation, including free, prior, and informed consent, extended to traditional Navajo Chapters, the Navajo Nation, the All Pueblo Council of Governors, and all Tribes who trace lineage to these sacred lands or to Chaco culture.
Garcia Richard	New Mexico Commissioner of Public Lands Stephanie	New Mexico State Land Office	Tribal consultation	We encourage the BLM to go beyond tribal consultation, but rather engage in tribal collaboration in the continued management of all tribal land under its care.
Hudson	Drew	Public Coalition	Tribal consultation	A commitment to meaningfully consult with Tribes and Indigenous peoples with ties to Greater Chaco. In undertaking consultation, we request adherence to principles of free, prior, and informed consent.
Medina	Diego	Piro/Manso/Tiwa Tribes	Tribal consultation	The PMT Tribe respectfully requests that the BLM pause all new oil and gas activities while the Honoring Chaco process is underway in order for the Department to consult with our Tribe and other Tribes who trace their lineage to Chaco regarding the cumulative impacts of the oil and gas industry in the region and the impacts to our ancestral sites, cultural resources, and environmental and human health.
Meissner	Lisa	Santa Clara Pueblo	Tribal consultation	this withdrawal must be paired with DOI's assurance that sufficient Tribally-led cultural resource studies and Tribal consultation will take place prior to any other development decisions in the Greater Chaco Region. DOI must proactively and meaningfully engage with the Pueblos and Tribal Nations, and where appropriate individual Native people, to address specific circumstances that may arise in relation to development on a particular parcel of land. The way to resolve these types of situations is through early, meaningful consultation with Tribal Nations and co-management of the land and its resources, to the greatest extent possible.
Merendino	Caleb	Waterway Advocates	Tribal consultation	BLM must stop all leasing and permitting until land management decisions can adequately protect the integrity of these communities. This process should include ethnographic studies in collaboration and meaningful consultation with Tribal communities. It is also imperative that this process include free, prior, and informed consent, extended to traditional Navajo Chapters, the Navajo Nation, the All Pueblo Council of Governors, and all Tribes who trace lineage to these sacred Chaco lands.
Mitchell	Mark	All Pueblo Council of Governors	Tribal consultation	Thus, the significant oil and gas development that has already been permitted to occur in the Greater Chaco Region has taken place without first examining the potential impacts on Pueblo cultural resources or otherwise engaging in appropriate Tribal consultation with the Pueblos on potential impacts. This dangerous combination has resulted in the situation we face today: the need to preserve the most critical areas at the center of the Greater Chaco Region from the devastation other areas of the sacred landscape have already incurred as a consequence of oil and gas development.
Montoya Hammersley	Mia	New Mexico Environmental Law Center	Tribal consultation	Relief is needed and the BLM must pause all leasing and permitting until land management decisions are able to center on the protection of the integrity of the cultural landscape which includes tribally led ethnographic studies and meaningful Tribal consultation, including free, prior, and informed consent, extended to traditional Navajo Chapters, the Navajo Nation, the All Pueblo Council of Governors, and all Tribes who trace lineage to these sacred lands or to Chaco culture. In addition, the Law Center urges the BLM to offer consultation mechanisms for Tribes such as the Piro/Manso/Tiwa Tribe who have not yet been granted federal recognition, but who trace lineage to the Chaco region.
Nez	Jonathan	The Navajo Nation	Tribal consultation	Navajo Nation Council, acting through its Naabik'iyáti' Committee, passed Resolution NABIIA-05-20 on January 23, 2020, which opposed the "Chaco Heritage Area Protection Act of 2019", H.R. 2181 and S. 1079, until such time as the buffer zone surrounding Chaco Cultural National Historical Park is reduced to five (5) miles. The project we are discussing today is essentially the same as what was described in Resolution NABIIA-05-20. It has been over two years and DOI has not formally responded to this request by Navajo Nation leaders to reduce the buffer zone from 10 miles to 5 miles. If DOI was more amenable to working with Navajo Nation's offer of compromise, we could have addressed the concerns. Proper Tribal Consultation is not a one-day meeting. It is a continuous and meaningful dialogue between the federal government and Navajo Nation in the hopes of arriving at a solution to a problem or issue. That is not happening here. The Navajo Nation's previous compromise has been ignored leaving us with no other option but to seriously consider opposing this withdrawal.
Nez	Jonathan	The Navajo Nation	Tribal consultation	I will start by stating my concerns on this entire consultation process and the ways it has been conducted. First, the meeting time is continually changing-good thing I have a cell phone to keep me informed. I cannot begin to imagine how the Navajo allottees, without cell phones, are receiving notification of these different meeting times and messages that are sent to them about their involvement in this process. Second, at the February 23, 2022 public meeting, many Navajo elders showed up and expressed their concerns. There was no recording of their concerns and no adequate interpretations in the Navajo language were provided to ensure their understanding of this project and its consequences. I do not know if those same elders were able to attend the consultation sessions in Nageezi, NM to express their concerns on the record.
Nez	Jonathan	The Navajo Nation	Tribal consultation	Navajo people do not go into Chacoan ruins to destroy them. There are Navajo teachings against doing so. Those who raided Chaco Canyon were non-Indian artifact hunters and, sometimes, researchers. The Navajo Nation has the Heritage & Historical Preservation Department (HHPD) as the lead agency responsible for protection, preservation and management planning for historic, archaeological, paleontological and other cultural resources within the Navajo Nation and on other Navajo Nation lands in which the Navajo people have a traditional interest. HHPD initially supported a 5-mile buffer zone. HHPD cooperatively works with the federal government in respecting these Chacoan ruins or artifacts. I would request that the federal government respect the work and advice of this Department and have HHPD take a lead role.
O'Neill	Mick	N/A	Tribal consultation	The BLM is "charged with engaging in regular and meaningful consultation and collaboration with federally recognized tribes in the development of Federal policies and decisions that have tribal implications." The tribes of northwest New Mexico have spoken. Proper tribal consultation requires that the BLM honor their requests. This withdrawal could be the first step in securing protections for the air, land, water, cultural resources and people of Greater Chaco.
Pinto	Kendra	Earthworks	Tribal consultation	The communities of the Greater Chaco Region need relief. BLM must pause all leasing and permitting until land management decisions are able to center on the protection of integrity of the cultural landscape. This includes Tribe-led ethnographic studies and meaningful Tribal consultation, including Free, Prior, and Informed Consent (FPIC) extended to traditional Navajo Chapters, the Navajo Nation, the All Pueblo Council of Governors, and all Tribes who trace lineage to these sacred lands or to Chaco culture.
Pinto	Kendra	Earthworks	Tribal consultation	The Greater Chaco Landscape extends far beyond the boundaries of the National Park and holds environmental, cultural, and historical significance that must be safeguarded from further destruction. Utilizing FPIC with Tribal and Indigenous leaders and community members will be critical in allowing for meaningful and impactful consultation for the Greater Chaco Region.
Plucinski	Melanie	Native Organizers Alliance	Tribal consultation	BLM must pause all leasing and permitting until land management decisions are able to center protection & integrity of the cultural landscape which includes tribally led ethnographic studies and meaningful Tribal consultation, including free, prior, and informed consent.
Sarracino	Ashley	N/A	Tribal consultation	I would definitely ask that the BLM, as well as the Department of Interior, do a better job to make these important meetings more public, and make a conscious effort to actually get our community members here, or take this meeting to our actual homelands and various Pueblos, as well as tribes.
Seamster	Teresa	Counselor Chapter HIA-KBHIS	Tribal consultation	The lack of tribal consultation conducted by federal agencies at the community level, where the most harmful impacts of oil development occur, has made it imperative that local residents become the researchers and presenters of their community data. Statistics collected at a regional level become diluted and intense contamination hot spots and rapidly dispersed pollutants are not captured or analyzed for impacts. In addition, community division, conflict and violence over leasing and allotments is ignored with no ombudsman (peacekeeper) or legal services provided to avoid it. The collection of community air quality data and health symptoms combined with social/cultural surveys provide a critically needed picture of physical illness, mental distress and spiritual impacts that occur in oilfield communities. Leasing land in living communities for such an intrusive and unhealthy industry as gas and oil cannot be allowed without far more protections instituted to prevent negative life-long consequences. The mineral withdrawal in the 10-mile buffer around Chaco CNHP is an important step forward in protecting the exceptional quality of this internationally recognized center of ancient culture. We appreciate the effort to accomplish that. However, eliminating well emissions, providing blood-gas testing and treatment, removing wells near schools, homes and centers and providing safe roads could accomplish even more in protecting human well-being and preserving a healthy rural economy in today's Chaco communities.
Trujillo	Lynn	New Mexico Indian Affairs Department	Tribal consultation	Meaningful consultation must continue between the BLM, the Bureau of Indian Affairs (BIA), and tribal communities for this initiative to be successful. Inclusion of tribal communities early and often in the process, especially the communities directly impacted by future development, is critical to protect the health and wellbeing of residents and to minimize impacts on cultural resources.
Tsodie	Kirena	Southwest Research and Information Center	Tribal consultation	Ethical and inclusive cooperation with tribal and environmental justice groups must be incorporated into the process to improve the health and safety of communities near oil and gas development.
Tsodie	Kirena	Southwest Research and Information Center	Tribal consultation	Require BLM land decisions and policy to include free, informed, and prior consent of the traditional Navajo Chapters, the Navajo Nation, the All Pueblo Council of Governors, and all Tribes who trace lineage to these sacred lands in the Greater Chaco region.
Vallo	Brian	N/A	Tribal consultation	The CHTA, established by the All Pueblo Council of Governors, is currently engaged in the development of an ethnographic study of the greater Chaco Region. This important initiative, funded by a Congressional appropriation administered by the DOI, is critical to this strategy of not only the Pueblos of New Mexico and the Hopi Tribe, but to the Navajo Nation who are also engaged in a similar effort. The ethnographic report will become the primary resource for federal agencies and others who manage lands in and around Chaco. The BLM must consider this on-going work by the CHTA and Navajo Nation and refrain from taking any further action until such time the final reports are accessible to better understand the depth of the ethnography, the density of cultural resources, and the importance of this cultural landscape as articulated by Pueblo and Navajo cultural experts.
Vallo	Brian	N/A	Tribal consultation	I respectfully urge the BLM, as our federal trustee, to cease any further action and encourage BLM officials to work closely with, and listen to, Pueblo and other tribal leaders now and post ethnographic study, to secure the withdrawal of federal lands from further oil and gas development. Looking ahead, I further encourage the BLM to strengthen consultation by including the perspectives and desires of Pueblos and tribes in decision-making where management and protection of the Greater Chaco Landscape are concerned.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Vicente	Randall	Pueblo of Acoma	Tribal consultation	Furthermore, the withdrawal regulations stress the importance of early consultation. ⁷⁹ While the regulation recommending early consultation refers to consulting with a "potential applicant," (in this case the applicant is BLM) Acoma and the APCG have long been advocating protection and withdrawal of the 10-mile buffer zone around CCNHP and its outliers, and therefore should be treated in a manner equivalent to "potential applicants." As such, BLM must consult with Acoma regarding the proposed withdrawal at the earliest time possible. 79 See43 C.F.R. § 2310.1-1.
Vicente	Randall	Pueblo of Acommma	Tribal consultation	I urge the Department to complete the Chaco Administrative Withdrawal, honoring the sacred landscape that exists there. I also urge the Department to continue Government-to- Government Consultation with the Pueblo of Acoma and other Tribes, and utilize and rely on tribally-led Cultural Resource Studies for all federal actions and undertakings in the Greater Chaco Region.
Werito	George	Ojo Encino Chapter	Tribal consultation	Ojo Encino Chapter believes that most federal NEPA processes within the Navajo Nation boundaries (which includes the contiguous Eastern Agency Boundaries) degrade Navajo sovereignty, disparage Navajo Communities, and creates further chaos within the Checkerboard areas of the Eastern Agency. Ojo Encino Chapter has engaged for years with the BLM and BIA in various NEPA and section 106 processes for federal projects within the eastern agency and the Chapter's boundaries. Unfortunately, the federal government has consistently had some form of a predetermined decision that it would implement and impose upon Eastern Agency Navajo communities, including Ojo Encino Chapter. No matter how much input, hours of research, data, or laws presented; the result was generally always the same: favoring the federal governmental power holders and their supporters. The Chapter believes that federal decisions involving BLM lands and minerals within Eastern Agency are Navajo decisions that are to be made based on Navajo systems, values, and ethics which include deference to local communities and Naabik'iyáti'. The Chapter's position is that these lands fall under Navajo Nation's jurisdiction via 7 N.N.C. § 254 (and is recognized by the Navajo Nation and Federal governments as lands to be transferred to the Navajo Nation). NEPA is a federal governmental system of power and control (utilizing the federal government's values and ethics) and imposed upon Navajos, Navajo Communities, and the Navajo Nation especially within the Eastern Agency. All the BLM lands within the proposed Chaco withdrawal area are within the contiguous boundaries of the Navajo Eastern Agency. Thus, the Chapter believes that the Navajo Nation, via its own planning and consultation mechanisms involving local community deference and Naabik'iyáti' should be utilized. The Navajo Nation also should have the right to confer with other tribes that may have cultural connectivity to the proposed withdrawal lands in its development of Chaco area protections.
Atencio	Mario	N/A	Purpose and need	The focus of the withdrawal should Navajo include the landscape level planning in the Navajo communities of Counselors, Ojo Encino and Torrean.
Benally	Aw	N/A	Purpose and need	Moratoriums have come and gone. What exactly have they accomplished? The proposal two places a 20-year ban on gas and oil production is to accomplish what?? This is for Navajo allotments? Is it only for Indian country or perhaps any production anywhere? How will people travel? Mineral fuels is the only manner in which planes flies a train moves automobile drives boat operates and homes are heated etc etc.
Goetz	Rusty	N/A	Purpose and need	The BLM needs to clearly define the issues that are the drivers for expanding the park area. Is it to enlarge the Dark Sky area for the park observatory? Is it to reduce noise levels in the park? Is it to support desert climate/biology studies*? Is more land needed for more historical research and preservation? Is it because some people don't' want to see drill rigs or ranching equipment from within the boundaries of the park? Are more campgrounds and hiking trails wanted?
Hudson	Drew	Public Coalition	Purpose and need	A commitment to not offer more oil and gas leases for sale in the Greater Chaco region and to take steps to reduce the number of existing leases by not granting or renewing any lease suspensions.
Nez	Jonathan	The Navajo Nation	Purpose and need	The characterization of the project is misleading because the area of withdrawal covers lands beyond the Chaco Culture National Historical Park. It goes way into Navajo Indian Country. If you look at the map, it covers almost half of Eastern Navajo Agency. The area of withdrawal is too large to be placed under federal oversight and this will limit the use of the land by the Navajo people living on these lands.
Barnett	Gary	Grant County Archaeological Society	Range of proposed actions and activities	Finally, though we recognize that the proposed withdrawal by the Department of the Interior is limited by statute to a 20-year period with the potential for extension, we strongly urge BLM and the Department to identify and implement other mechanisms that would allow for permanent protection of these lands.
Barnett	Gary	Grant County Archaeological Society	Range of proposed actions and activities	Request that during the initial 2-year segregation period, no activity be allowed to take place that would degrade the values of any of the subject lands.
Beasley	Allyson	Western Environmental Law Center	Range of proposed actions and activities	BLM Should Suspend all Oil and Gas Leasing and Development across the Greater Chaco Landscape as it Completes the Honoring Chaco Process, and Pending Completion of Updated Farmington and Rio Puerco RMPs. BLM should view the proposed withdrawal in the context of the broader Honoring Chaco process, and in parallel with updating the outdated Farmington and Rio Puerco RMPs. Where, as here, there is a pending programmatic amendment to the RMP/EIS for the Mancos Shale/Gallup Formation with the goal of updating the outdated 2003 RMP and 2002 RFD for the planning area, NEPA requires BLM "to stop actions that adversely impact the environment, that limit the choice of alternatives for the EIS, or that constitute an 'irreversible and irretrievable commitment of resources.'" Conner v. Burford, 848 F.2d 1441, 1446 (9th Cir. 1988). NEPA regulations established by the Council of Environmental Quality ("CEQ") prohibit an agency from taking any actions that would significantly impact the environment: While work on a required program environmental impact statement is in progress and the action is not covered by an existing program statement, agencies shall not undertake in the interim any major Federal action covered by the program which may significantly affect the quality of the human environment unless such action: - Is justified independently of the program; - Is itself accompanied by an adequate environmental impact statement; and - Will not prejudice the ultimate decision on the program. Interim action prejudices the ultimate decision on the program when it tends to determine subsequent development or limit alternatives. 40 C.F.R. §§ 1506.1(c)(1)-(3). Proceeding with any oil and gas leasing or permitting approvals, or approvals for associated development such as Right-of-Ways - is impermissible due to the inherent prejudice that this action will cause to completion of the pending RMPA/EIS.
Beasley	Allyson	Western Environmental Law Center	Range of proposed actions and activities	Pause all new and pending oil and gas leasing and development proposals and related activities while the Honoring Chaco process is underway and while the Department engages with Tribes, Pueblos, and affected communities to address the cumulative impacts of oil and gas in the region and provide full, landscape-level protections.
Gil	Steve	N/A	Range of proposed actions and activities	However, this proposal does not go far enough to protect and restore the Greater Chaco community. With over 90% of federal lands in the region already open to oil and gas development, a more comprehensive and expansive plan is needed to protect and restore lands that are both culturally important and sacred to Indigenous people of the area. The continued reckless mineral extraction of the Greater Chaco region needs to end immediately.
Goetz	Rusty	N/A	Range of proposed actions and activities	At first this proposal for a 10-mile-wide radial buffer zone around the Chaco Cultural National Historical Park sounds like a small request. However, when you realize the current park area is an irregular polygon of land about 11.5 miles long and 5 miles wide with an area of 50.09 square miles, a 10-mile-wide buffer quickly consumes over 550 square miles. It will increase the size of the park by a factor of 10 and restrict access to a large portion of the Chaco River drainage area. New Mexico is already ranked 9th in the nation for percentage of Federally owned property. Considering that New Mexico is also the 5th largest state in the country that's huge amount of land. The BLM needs to enunciate the drivers for a blanket removal of an additional 550 square miles of land from public/private use. This expansion will also remove an additional 550 square miles of public air space. By FAA rules, pilots are to avoid flying over national parks and must maintain a minimum altitude of 2000 feet AGL over any national park if they have to cross it.
Goetz	Rusty	N/A	Range of proposed actions and activities	Once you have identified the drivers for the possible expansion of the park area, instead of a simple flat 10-mile radius buffer around the park, measure the effects of what you are trying to address and shift the park boundaries accordingly. Is it really necessary to annex another 550 square miles or will a lesser, more calibrated amount of land due just as well?
Goetz	Rusty	N/A	Range of proposed actions and activities	Why was a flat 10-mile radius buffer zone selected? It does not conform to the topography or the current surface/subsurface use of land in the park area. Second, what is the purpose(s) of this buffer zone? That has not been clearly defined anywhere yet.
Grant	Soni	WildEarth Guardians	Range of proposed actions and activities	As the Honoring Chaco Initiative moves forward, we demand the Interior Department pause all pending oil and gas development proposals, including drilling permits, road construction, and pipeline building. Greater Chaco cannot be honored while it is being despoiled.
Harrison	Ted	N/A	Range of proposed actions and activities	10 miles isn't enough of a sanctuary.. you need to double that, especially if fracking is involved. All you need to justify increasing the area excluded from activity is to look at the experience in the Permian Basin. There are earthquakes there almost every day.. Quakes would destroy weaker cultural structures. From what I've seen the typical well site denudes and destroys large chunks of the natural landscape - acres of it. Chaco Canyon is precious don't let the avarice in the oil and gas industry destroy it.
Hudson	Drew	Public Coalition	Range of proposed actions and activities	A commitment to review the legality of all oil and gas development authorizations within the Farmington and Rio Puerco Field Offices that have occurred since 2017. As part of this review, we demand that all illegal authorizations be withdrawn and that all yet-to-be implemented authorizations be withdrawn.
Hudson	Drew	Public Coalition	Range of proposed actions and activities	In the interest of meaningfully and genuinely Honoring Chaco, we urge you to: - Direct the Bureau of Land Management to temporarily pause the approval of new oil and gas development in the Greater Chaco region. - Direct that this pause be in place until the Honoring Chaco Initiative is complete.
Not Provided	Not Provided	N/A	Range of proposed actions and activities	Further, drilling anywhere near Chaco causes vibrations in the ground which are harmful to this fragile site. The moratorium should include directional drilling beneath Chaco as well.
Seamster	Teresa	N/A	Range of proposed actions and activities	Lease sales and continued well development must be withdrawn in the 10 mile buffer now to protect the residents of Chaco communities from further well density and well contamination of their environment.
Tsosie	Beata	Breath of My Heart Birthplace	Range of proposed actions and activities	The Department of Interior must implement a complete landscape level planning process that includes and goes beyond the proposed 10 mile mineral withdrawal.
Tsosie	Kirena	Southwest Research and Information Center	Range of proposed actions and activities	Honoring Chaco should be a priority, along with a resource management plan, and should be completed before any new land development for natural resource extraction is approved. The process should adhere to the requirements of Free, Prior, and Informed Consent that center communities, instead of oil and gas industries, as the dominant priority in the Greater Chaco region.

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Beasley	Allyson	Western Environmental Law Center	Best available information-baseline data	<p>There are several other notable scientific papers BLM should consider in order to analyze and disclose to the public the health risks and impacts associated with its leasing decisions.235 Multiple peer-reviewed papers have identified adverse health effects and risks arising from exposure to unconventional oil and gas drilling operations, even within a large radius of residences-potentially up to ten miles.236 For example, one study found that babies whose mothers lived in close proximity to multiple oil and gas wells were 30% more likely to be born with heart defects than babies born to mothers who did not live close to oil and gas wells.237 Other adverse health impacts documented among residents living near drilling and fracking operations include increased reproductive harms, asthma attacks, higher rates of hospitalization, ambulance runs, emergency room visits, self-reported respiratory problems and rashes, motor vehicle fatalities, trauma, and drug abuse. Moreover, one recent study found that fracking and drilling near people's homes "drives stress experiences that go beyond the mere presence of industrial land uses in neighborhoods," and identified two key institutional barriers driving negative mental health impacts for people living near UOG [unconventional oil and gas] production - namely: 1) uncertainty, due to inaccessible, transparent information about environmental and public health risks and 2) powerlessness to meaningfully impact regulatory or zoning processes.238 235 See, e.g., Exhibit 79, R.Z. Witter, et al., Occupational exposures in the oil and gas extraction industry: state of the science and research recommendations, AMERICAN JOURNAL OF INDUSTRIAL MEDICINE (2014); Exhibit 80, Jessica Gilman, et al., Source signature of volatile organic compounds (VOCs) from oil and natural gas operations in northeastern Colorado, ENVIRONMENTAL SCIENCE & TECHNOLOGY (2013); Exhibit 81, Roxana Z. Witter, et al., The Use of Health Impact Assessment for a Community Undergoing Natural Gas Development, FRAMING HEALTH MATTERS (2013); Exhibit 82, Nadia Steinzor, et al., Investigating links between shale gas development and health impacts through a community survey project in Pennsylvania, NEW SOLUTIONS, vol. 23 iss. 1. (2013); Exhibit 83, John L. Adgate, et al., Potential Public Health Hazards, Exposures and Health Effects from Unconventional Natural Gas Development, ENVIRONMENTAL SCIENCE & TECHNOLOGY (2014); Exhibit 84, Christopher W. Moore, et al., Air Impacts of Increased Natural Gas Acquisition, Processing, and Use: A Critical Review, ENVIRONMENTAL SCIENCE & TECHNOLOGY (2014); Exhibit 85, Avner Vengosh, et al., The effects of shale gas exploration and hydraulic fracturing on the quality of water resources in the United States, PROCEDIA EARTH AND PLANETARY SCIENCE (2014); Exhibit 86, Christopher D. Kassotis, et al., Estrogen and Androgen Receptor Activities of Hydraulic Fracturing Chemicals and Surface and Ground Water in a Drilling-Dense Region, ENDOCRINOLOGY (2014); Exhibit 87, Brian E. Fontenot, et al., An Evaluation of Water Quality in Private Drinking Water Wells Near Natural Gas Extraction Sites in the Barnett Shale Formation, ENVIRONMENTAL SCIENCE & TECHNOLOGY (2013); Exhibit 88, Sherilyn A. Gross, et al., Analysis of BTEX Groundwater Concentrations from Surface Spills Associated with Hydraulic Fracturing Operations, JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION (2013); Exhibit 89, K.D. Retzer, et al., Motor vehicle fatalities among oil and gas extraction workers, ACCIDENT ANALYSIS & PREVENTION (2013); Gayathri Vaidyanathan, Fracking Can Contaminate Drinking Water, Climate Wire (April 4, 2016), available at: https://www.scientificamerican.com/article/fracking-can-contaminate-drinking-water/; Exhibit 90, A. Tustin et al., Associations Between Unconventional Natural Gas Development and Nasal and Sinus, Migraine Headache, and Fatigue Symptoms in Pennsylvania, ENVIRONMENTAL HEALTH PERSPECTIVES (July 31, 2016), available at: http://ehp.niehs.nih.gov/wp-content/uploads/advpub/2016/8/EHP281.acco.pdf 236 See, e.g.,Exhibit 91, Lisa M. McKenzie et al., Birth Outcomes and Maternal Resident Proximity to Natural Gas Development in Rural Colorado, 122 ENVIRONMENTAL HEALTH PERSPECTIVES 412 (April 2014) [Hereinafter McKenzie et al., Birth Outcomes] (Finding an increased risk of congenital heart and neural tube defects in babies born to mothers living within 10 miles of a natural gas well); Exhibit 92, Janet Currie et al.,Hydraulic Fracturing and Infant Health: New Evidence from Pennsylvania, 3 SCIENCE ADVANCES e1603021(Dec. 13, 2017) (Finding evidence of negative health effects of in utero exposure to fracking sites within 3 km, or about 1.86 miles, of a mother's residence, with the largest health impacts seen within 1 km, or about 0.62 miles); Exhibit 93, Ellen Webb et al., Potential Hazards of Air Pollutant Emission from Unconventional Oil and Natural Gas Operations on the Respiratory Health of Children and Infants, 31 REV. ENVIRONMENTAL HEALTH 225-243 (Jun. 1, 2016), at 236 [hereinafter Webb et al.] (Noting that many unconventional oil and gas setback rules, for setbacks of 1000 feet or less, do not adequately protect health, especially children's respiratory health, that "the majority of municipal setback ordinances are not supported by empirical data," and calling for a one-mile minimum for setbacks between drilling facilities and schools, hospitals, and occupied dwellings). 237 See McKenzie et al., Birth Outcomes 238 See Exhibit 94, Stephanie A. Malin, Depressed democracy, environmental injustice: Exploring the negative mental health implications of unconventional oil and gas production in the United States, 70 Energy Research & Social Science, 101720 at 2 (2020).</p>
Shor	Henry	N/A	Best available information-baseline data	<p>The justification for withdrawing those certain lands is the provision of new information. In my new peer-reviewed scientific publication (See attached: "Could the Ancestral Puebloans of Chaco Canyon, New Mexico, Have Depended on a Groundwater Ecosystem?";Groundwater 59, no. 6:925-934. doi: 10.1111/gwat.13131) I hypothesized that an area immediately south of the current boundary of CCNHP may have been the location of an extensive Hypocrene springs producing a groundwater ecosystem that was essential to the establishment and maintenance of Ancestral Puebloan habitation- essentially causal to the total Chaco Canyon development. That hypothesis needs to be further studied. If it is verified, it would enhance Chaco Culture archaeology, perhaps provide a basis for realigning Park boundaries, and emphasize the importance of groundwater ecosystems in the development of some civilizations.</p>
Werito	George	Ojo Encino Chapter	GIS data and analysis	<p>This process also continues the precedent set by the BLM and BIA of ignoring the existence of contiguous Eastern Agency boundaries. In the maps available online, federal register notice, and other documents; Navajo Nation nor the Eastern Agency are mentioned. The maps show county boundaries but not Navajo Chapter boundaries. Perhaps this an uneasy reality for the federal government to address since this process has been driven mostly by parties outside of the Navajo Nation.</p>
Bowannie	Chantel	Zuni Pueblo	Direct / indirect impacts	<p>New oil and gas leases destroy the environment- not only at the drill sites themselves, but also in the surrounding land. Runoff from the sites, increased litter, and new service roads for the drill sires- they all equal destruction of the land. Runoff from the sites carry any number of chemicals into an environment they did not impact previously. This can lead to long term degradation of the land, plant life and wildlife. This is even more true if the chemicals get into the water table. Not only that, but each new service road impacts the land exponentially. Wildlife have reduced lands to range because of the humans intruding in their habitat, plant life is trampled for the sake of convenience, and each road brings more and more destruction.</p>
Eaton	Marietta	N/A	Direct / indirect impacts	<p>In addition to the cultural resource concerns, prior oil and gas development has allowed the wholesale development of roads, which fragment the landscape, introduce invasive species, especially drought loving plants which exacerbate the effects of climate change. The recent history of FFO oil and gas development does not encourage confidence that the BLM will be diligent about the impacts of development. Surface disturbance, to date had created a spider web of roads threaded haphazardly across the multi-jurisdictional landscape in the highly developed portions of the FFO. Roads have the potential to impact cultural resources, plant communities, and is a major contributor to air quality issues.</p>
Gil	Steve	N/A	Direct / indirect impacts	<p>In addition to preserving lands that are culturally and historically significant to Indigenous people, we must also consider the impact oil and gas development has on wildlife, recreational opportunities, and climate change. Limiting oil and gas development is essential in helping fight climate change and protecting sensitive wildlife habitat.</p>
Merendino	Caleb	Waterway Advocates	Direct / indirect impacts	<p>The science is clear: oil and gas activities have detrimental effects on our environment and society. It is the Department of Interior's responsibility to comprehensively analyze these impacts on public health, quality of life, cultural resources, water resources, air quality, environmental and social justice issues, and climate change. We urge the Department to include the proposed 10-mile mineral withdrawal in this comprehensive planning process.</p>
Montgomery	Ellen	Environment New Mexico	Direct / indirect impacts	<p>While these plant and animal species and cultural ruins are indisputably priceless, they are threatened by oil and gas fracking sites that completely surround the park. Fracking nearby causes negative ripple effects on the park. People living in the area have reported vibrations and are threatened by toxic pollution4 from drilling sites. Archeological and cultural artifacts, some still to be discovered, exist outside the boundaries of the park. And fracking disrupts the habitats of the countless species that live in and around the canyon by destroying sections of land, creating unnecessary noise, and bringing in people and equipment that take up space and pollute the air and water. 4 Nelson, Cody, ""Their greed is gonna kill us': Indian Country fights against more fracking," The Guardian, 6/10/2020. https://www.theguardian.com/us-news/2020/jun/10/new-mexico-fracking-navajo-indian-country</p>
O'Neill	Mick	N/A	Direct / indirect impacts	<p>The oil and gas industry has brought dangerous traffic, pollution, and safety concerns to communities around Chaco. The new plan would bring even more light pollution, noise from compressors and drilling operations, dust and traffic, and surface destruction of vanishing features like the renowned Chacoan road system.</p>
Beasley	Allyson	Western Environmental Law Center	Cumulative impacts	<p>As Part of the Honoring Chaco Process, BLM Must Take a Hard Look at Greenhouse Gas (GHG) Emissions and Climate Impacts of Fracking and Drilling, Particularly Cumulative Impacts, and Avoid any New GHG Pollution from Further Oil and Gas Leasing and Permitting, Not Just in the Withdrawal Area. There is no remaining room in the carbon budget for new commitments of future greenhouse gas (GHG) pollution. Greenhouse gas pollution resulting from any leasing and subsequent development, including all of the leasing and development still authorized outside of the 10-mile withdrawal area and boundary, along with existing federal fossil fuel development and potential development from leases previously issued but not yet under production within the withdrawal area and boundary 30 would contribute to catastrophic climate change and unnecessary and undue degradation to the atmosphere and other public lands values that BLM is legally obligated to protect. 30 See BLM Withdrawal Q&A, supra Note 8 BLM must therefore take a hard and comprehensive look not only at direct and indirect emissions and impacts, but also, importantly, the cumulative climate change impacts of authorizing any new leasing and development, together with committed emissions under lease, and should pause ANY issuance of new leases (and APD approvals), beyond the 10-mile withdrawal, pending demonstration of compatibility with U.S. and global climate goals and other applicable laws, regulations, and Executive and Secretarial Orders, pending completion of new RMPs for Farmington and Rio Puerco Field Offices, and for the duration of the broader Honoring Chaco process. In its NEPA analysis for the proposed withdrawal, BLM should assess the climate benefits of the proposed 10-mile withdrawal, but in doing so, cannot ignore the cumulative impacts of historic and ongoing oil and gas leasing and development that will still occur beyond that ten-mile area, or through the exercise of existing lease rights.31 These cumulative emissions and impacts further underscore the need for BLM to conduct a comprehensive analysis of GHG emissions and climate impacts--and indeed, of all of the risks and impacts of fracking--across the Greater Chaco landscape as part of the Honoring Chaco process. This analysis should also be included in, and meaningfully inform ultimate decision- making and alternatives analysis for, much-needed new RMPs for the BLM Farmington and Rio Puerco Field Offices. 31 Id.</p>
Beasley	Allyson	Western Environmental Law Center	Cumulative impacts	<p>BLM must take a hard look not only at direct health impacts and proximity-related health impacts of oil and gas development, but also at cumulative health risks and impacts. See 40 C.F.R. § 1508.7 (defining cumulative impacts);see also 40 C.F.R. § 1508.25(c) (stating that, in determining scope of environmental impact statements, agencies shall consider direct, indirect, and cumulative impacts); 40 C.F.R. § 1508.27(b)(7) (stating that one of the factors agencies must consider in assessing the significance of an action is "whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment..."). Cumulative health risks and impacts can arise not only from multiple pollutant exposures, and cumulative pollution exposures over time, but also from compounding structural, social, and economic factors, many of which are rooted in systemic inequities and injustices.</p>
Beasley	Allyson	Western Environmental Law Center	Cumulative impacts	<p>Here, as with greenhouse gas emissions, the point of a cumulative impacts analysis is not to break emissions down into annual fractions or "component parts" in order to dismiss them as "incremental" or insignificant. BLM's cumulative impacts analyses should analyze additive and/or multiplicative short and long-term emissions and effects-the impacts which result "from the incremental impact of the action when added to past, present, and reasonably foreseeable future actions" (and impacts). 40 C.F.R. § 1508.7. See also 40 C.F.R. § 1508.27 (discussing cumulative impacts in evaluating significance).</p>
Beasley	Allyson	Western Environmental Law Center	Cumulative impacts	<p>BLM must analyze additive short and long-term emissions and their direct, indirect, and cumulative health effects from these lease sales- the impacts which result "from the incremental impact of the action when added to past, present, and reasonably foreseeable future actions" (and impacts). 40 C.F.R. § 1508.7. See also 40 C.F.R. § 1508.27 (discussing cumulative impacts in evaluating significance).</p>
Garcia	Raena	Friends of the Earth	Cumulative impacts	<p>Implement a comprehensive landscape-level planning process that includes the proposed 10-mile mineral withdrawal as well as finally analyzing the cumulative impacts of oil and gas activities on public health, local quality of life, cultural resources, water resources, air quality, environmental and social justice issues, and climate change.</p>
May	Kathleen	N/A	Cumulative impacts	<p>I believe that this mineral withdrawal has to be supported by The Department of Interior implementing a comprehensive landscape-level planning process that includes the proposed 10-mile mineral withdrawal as well as in depth analysis of the cumulative impacts of oil and gas activities on public health, local quality of life, cultural resources, water resources, air quality, environmental and social justice issues, and climate change.</p>
Montoya Hammersley	Mia	New Mexico Environmental Law Center	Cumulative impacts	<p>The Department of Interior must implement a comprehensive landscape-level planning process that includes the proposed 10-mile mineral withdrawal as well as finally analyzing the cumulative impacts of oil and gas activities on public health, local quality of life, cultural resources, water resources, air quality, environmental and social justice issues, and climate change</p>
Not Provided	Not Provided	National Wildlife Federation, New Mexico Wildlife Federation, HECHO	Cumulative impacts	<p>Additional oil and gas development around the CCNHP would only worsen air pollution in the region, further compounding this existing health threat. The Proposed Withdrawal will reduce the impact to air quality in the region.</p>

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Not Provided	Not Provided	National Wildlife Federation, New Mexico Wildlife Federation, HECHO	Cumulative impacts	Any energy development in the proposed buffer would be additive to the excessive oil and gas activity already taking place in the San Juan Basin. The BLM has leased approximately 80% of the federal minerals available in this region.6 Roads, well pads, and pipelines blanket this landscape, which already impacts wildlife across the region. 6 Bureau of Land Management, Farmington Mancos-Gallup Draft Resource Management Plan Amendment and Environmental Impact Statement, 1-4 and Figure 1-2 (Feb. 2020).
Tsosie	Beata	Breath of My Heart Birthplace	Cumulative impacts	The cumulative, intergenerational, and multiple impacts of oil and gas on public health, quality of life, cultural resources, our living waters, air, and the impacts on all levels and layers of ecologies must be included in this process.
Tsosie	Kirena	Southwest Research and Information Center	Cumulative impacts	Provide additional scientific, environmental, and human health studies to identify cumulative impacts of the 40,000+ oil and gas wells pollution the region.
Nez	Jonathan	The Navajo Nation	Mitigation and monitoring	I understand that the U.S. farm program pays subsidies to farmers not to grow crops in environmentally sensitive areas and makes payments to farmers based on what they have grown historically, even though they may no longer grow that crop. Similarly, the federal government should explore opportunities to assist Navajo Allottees on how not to develop oil and gas development on or near their Indian Allotments rather than using a strong arm to quash Navajo objections. A solution might be for the federal government, environmental organizations and other concerned tribal governments to pay Navajo Allottees to not develop oil and gas on their allotments. This could be fashioned after the model of paying farmers to not grow crops.
Beasley	Allyson	Western Environmental Law Center	Level of NEPA analysis needed	BLM has yet to complete either a project level or broader NEPA document that analyzes the federal oil and gas program in light of these scientific conclusions and with an eye to developing alternatives that respond to them. A programmatic review is the ideal setting for such an analysis. NEPA requires analysis before making decisions with potentially irreversible effects: "the appropriate time for preparing an EIS is prior to a decision, when the decisionmaker retains a maximum range of options." Sierra Club v. Peterson, 717 F.2d 1409, 1414 (D.C. Cir. 1983). While this is of course true at the project level, such as the proposed withdrawal, it is no less true at the programmatic level when each project comprises an incremental part of the overall impact--across the entire Greater Chaco landscape and the entire federal fossil fuel program. The issuance of EO 14008 and its implementing secretarial orders represents both an opportunity and a demand for comprehensive action by the Department of Interior and BLM. The "comprehensive review and reconsideration" of the federal leasing program called for in Section 208 requires a hard and wholistic look not only at emissions from federal fossil fuels but at how the program contributes to the climate crisis and what must be done to help the United States achieve and contribute to global climate security-not merely by compliance with international agreements but in a way that meaningfully reduces programmatic emissions.
Beasley	Allyson	Western Environmental Law Center	Level of NEPA analysis needed	Implement a comprehensive landscape-level planning process that includes but is not limited to the proposed withdrawal area, and that fully analyzes and discloses the direct, indirect, and cumulative risks and impacts, including but not limited to the above- mentioned impacts, of oil and gas activity in the Greater Chaco.
Beasley	Allyson	Western Environmental Law Center	Level of NEPA analysis needed	In short, preparing a programmatic NEPA analysis will help the Agency to reduce or eliminate redundant and duplicative analyses and effectively address cumulative impacts, substantially reducing the administrative burden and economic costs to the Agency and assisting the Agency in formulating comprehensive mitigation measures that apply at the national level.
FORM 2	Master	N/A	Level of NEPA analysis needed	The Bureau of Land Management (BLM) should launch a comprehensive landscape-level planning process that includes the proposed 10-mile mineral withdrawal as well as the full impact to the entire Chaco region. The current Regional Management Plan for Chaco is still largely based on an outdated 2003 scientific analysis. The BLM should issue a new regional management plan for the broader Farmington and Chaco region that takes the latest analysis on the impacts to communities and the worsening climate crisis.
Hudson	Drew	Public Coalition	Level of NEPA analysis needed	An immediate pause on all new oil and gas development authorizations, including drilling permits, in the Greater Chaco region. We request this pause remain in place until the completion of the Honoring Chaco Initiative, which must include completion of ethnographic studies in the region and comprehensive updates to the Resource Management Plans for the Farmington and Rio Puerco Field Offices that align land and resource management with the Honoring Chaco Initiative. The Farmington Mancos/Gallup Resource Management Plan Amendment - Environmental Impact Statement must be abandoned so that more comprehensive land and resource management planning under the Honoring Chaco Initiative may take place.
Moore	Stan	N/A	Level of NEPA analysis needed	Each new oil or gas lease is already subject to the NEPA and cultural impact surveys and these should continue to be determined on a case-by-case basis instead of blanket ban.
Plucinski	Melanie	Native Organizers Alliance	Level of NEPA analysis needed	The Department of Interior must implement a comprehensive landscape-level planning process that includes the proposed 10-mile mineral withdrawal as well as finally analyzing the cumulative impacts of oil and gas activities on public health, local quality of life, cultural resources, water resources, air quality, environmental and social justice issues, and climate change.
Tsosie	Kirena	Southwest Research and Information Center	Level of NEPA analysis needed	Implement a comprehensive landscape-level planning process that centers community's needs, concerns, and solutions.
Beasley	Allyson	Western Environmental Law Center	Consistency with existing land use plans	As provided, while NEPA precludes oil and gas leasing and development until the RMPA/EIS process is completed, such a decision is also well within the discretion of the FFO and RPFO. As outlined in the Land Use Planning Handbook (H-1601-1), the Resource Management Plan (RMP) underlies fluid minerals leasing decisions. Through RMP effectiveness monitoring and periodic RMP evaluations, state and field offices will examine resource management decisions to determine whether the RMPs adequately protect important resource values in light of changing circumstances, updated policies, and new information (H-1601-1, section V, A, B). The results of such reviews and evaluations [UNDERLINE FOLLOW]may require field office resource information updates and land use plan maintenance, amendment, or revision.[END UNDERLINE] (emphasis added). Here, the public interest would be better served if BLM would complete a new RMP/EIS for the Farmington Field Office-not just an amendment- before leasing or developing additional public lands in the planning area. Before additional public lands are sold and developed by the oil and gas industry, the agency must first analyze and disclose to the public the additional impacts of fracking paired with horizontal drilling in the Mancos Shale/Gallup formation. These additional impacts differ so greatly from those associated with conventional drilling, they warrant preparation of an entirely new RMP, not just an amendment to the existing plan. Such an approach is required given the resulting prejudice to a Farmington and Rio Puerco RMP and EIS that any further leasing and subsequent development would create. Under these circumstances, NEPA plainly prohibits undertaking any action that would limit alternatives, as proceeding with leasing in the Mancos shale certainly would. 40 C.F.R. §§ 1506.1(c)(1)-(3). Indeed, it may have already done so- all of the alternatives analyzed by BLM in its Draft RMPA/EIS for the Farmington Field Office prioritize continued oil and gas development, including fracking and horizontal drilling. See Draft RMPA/EIS Vol. I at 3-4. Under the various alternatives, BLM has projected between 2,345 and 3,101 new oil and gas wells within the planning area. Id. While BLM's "preferred alternative" claims that "human health and the environment" are among its objectives, this alternative still projects development of 3,068-3,085 new wells in the planning area, only 16-33 fewer wells than the amount proposed in the "maximum development" scenario. Id. BLM's RMP for the Rio Puerco Field Office is even more outdated. BLM issued a draft RMP/EIS in 2012, intended to replace the 1986 RMP and subsequent amendments--but meanwhile, the RPFO is operating under an RMP that is over 35 years old, and last revised approximately three decades ago, in 1992. 29 Like the Farmington RMP, it fails to account for new fracking and drilling technologies, and a vast array of critical new information about climate, health, environmental justice, and cumulative impacts that has become available since the original RMP was developed (and even since a draft was issued in 2012). 29 See https://www.blm.gov/programs/planning-and-nepa/plans-in-development/new-mexico/rio-puerco-rmp
Beasley	Allyson	Western Environmental Law Center	Consistency with existing land use plans	We also urge BLM to develop entirely new Resource Management Plans (RMPs) for both the Farmington and Rio Puerco Field Offices, in parallel with the proposed mineral withdrawal. New, updated RMPs for both field offices (not just an RMP Amendment, as proposed thus far for the Farmington Field Office) are long overdue, and should be an integral part of the Honoring Chaco initiative and process--not artificially separated from the proposed withdrawal or other Honoring Chaco efforts. Replacements for these severely outdated RMPs, with alternatives that fully account for environmental justice, health impacts, cultural resources, climate change and climate justice, and cumulative impacts are necessary to ensure the full landscape-level protections for Greater Chaco that those in frontline communities, and members of the Greater Chaco Coalition, including many Commenters, have long called for.
Carlesco	Adam	Food & Water Watch	Consistency with existing land use plans	4. BLM must issue a new regional management plan for the broader Farmington/Chaco region. In issuing this withdrawal notice, BLM notes that all uses of the land included in the setback zone comply with requirements of the 2003 Farmington Resource Management Plan (RMP); however, this plan is now significantly outdated and must be replaced with an entirely new resource management plan that aligns with Executive Orders 13990 and 14008.16 While it is understood that BLM's Farmington office is currently engaging with the public on an amendment to this plan, a simple amendment is not sufficient given the change in circumstances since the plan was finalized nearly 20 years ago or when the amendment was first proposed eight years ago. The 2003 RMP does not address issues related to the use of hydraulic fracturing, a nascent technology when the plan was first issued but now widespread and with significantly higher impacts on water resources than conventional drilling. The proposed 2020 amendment of this antiquated plan does little to address the inherent shortcomings of the deficient 2003 plan.17 16 Executive Office of the President, Executive Order 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, Jan. 20, 2021; Executive Office of the President, Executive Order 14008, Tackling the Climate Crisis at Home and Abroad, Jan. 27, 2021. 17 BLM New Mexico, Farmington Mancos-Gallup Draft Resource Management Plan Amendment and Environmental Impact Statement, Vol. 1, Feb. 2020,As written neither the 2003 RMP nor the 2020 RMP Amendment align with this Administration's stated goals in Executive Orders 13990 and 14008 and should be discarded and replaced by a new RMP that aligns with climate action priorities.
Beasley	Allyson	Western Environmental Law Center	New alternative	BLM Must Consider a No-Leasing Alternative in Updating its Farmington and Rio Puerco RMPs In light of the overwhelming scientific consensus of dwindling U.S. and global carbon budgets and the catastrophic consequences of exceeding them, and given the leasing and development that can still occur despite the proposed withdrawal,130 BLM must consider a "no leasing" alternative for its Farmington and Rio Puerco RMPs, as part of the Honoring Chaco process. BLM has broad discretion not to lease public lands for minerals development, and has the responsibility to use this discretion to safeguard environmental and human health resources and values in light of climate change. See, e.g., Udall v. Tallman, 380 U.S. 1 (1965); Rocky Mountain Oil & Gas Ass'n v. U.S. Forest Serv. 157 F.Supp.2d 1142 (D. Mont. 2000). The BLM must consider a "no leasing" alternative in light of rapidly shrinking global carbon budgets. 130 See BLM Withdrawal FAQ, supra Note 8 and https://eplanning.blm.gov/public_projects/2016892/200507928/20055459/250061641/WithdrawalQ&A_external.pdf
Benally	Aw	N/A	New alternative	The buffer zone must remain at 5 miles as was approved by the Navajo nation council and now the whole nation President Jonathan Nez.
Brown	Dave	DJR Operating, LLC	New alternative	DJR supports the January 2020 decision of the Navajo Nation Council (Legislation 0366-19) to withdraw support for a 10-mile no-leasing buffer for federal minerals in favor of a more reasonable 5-mile buffer. The Navajo Nation has been insistent on not only supporting the 5-mile buffer but advocating for meaningful consultation with the Department of Interior on this proposed withdrawal. As stated in a press release of March 19, 2022, from the Navajo Nation, Chairman Nez of the Nation's Resource Development Committee stated: "The Biden Administration and Interior Department bypassed previous requests to Congress for field hearings and for federal officials to hear directly from our Navajo families residing in the Chaco Canyon region. The Navajo Nation continues to advocate for a 5-mile buffer within and around this sacred landscape. It is important that the federal government follow the Biden memorandum that directs all federal agencies to honor tribal sovereignty and include the voices of tribes in policy deliberations that affect their communities." DJR believes the Navajo Nation's request for consultation on their position regarding the 5-mile buffer should be a priority consideration by the Department of Interior in making any decision to move forward with a land withdrawal and, as necessary, extend the comment period to accomplish this objective.
Carlesco	Adam	Food & Water Watch	New alternative	2. The Secretary of Interior should extend protections for the Chaco Canyon area beyond simple withdrawal from new leasing Secretary Haaland stated that "[n]ow is the time to consider more enduring protections for the living landscape that is Chaco, so that we can pass on this rich cultural legacy to future generations."5 However, a temporary 20-year withdrawal from new extractive industry is not enough to provide for enduring protections that will preserve the cultural legacy of Chaco Canyon, a UNESCO World Heritage Site, for future generations in perpetuity - in fact, a 20-year withdrawal wouldn't even protect the area for current generations. However, other internal subdivisions of DOI do accord for heightened long-term protection of cultural and ecologically significant public lands. 5 BLM, Secretary Haaland Announces Steps to Establish Protections for Culturally Significant Chaco Canyon Landscape, Nov. 15, 2021, https://www.blm.gov/press-release/secretary-haaland-announces-steps-establish-protections-culturally-significant-chaco
Seamster	Teresa	N/A	New alternative	Guaranteed protections must be put in place to assure quality of life beyond the 10-mile buffer. The oil and gas industry must be held accountable for the impacts of tens of thousands of existing oil and gas wells in the region, non-producing wells must be plugged and remediated, and no new leases should be sold.
Tsosie	Beata	Breath of My Heart Birthplace	New alternative	There must be a plan for decommissioning all tracking and drilling sites in the Greater Chaco region. There cannot be restoration and complete healing until the source of the harm is ended.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Tsosie	Beata	Breath of My Heart Birthplace	New alternative	It is also clear that Greater Chaco protection must go beyond a 10 mile buffer. Does the 10 miles apply to what is happening beneath the soil? Or are horizontal fracking lines crisscrossing the lands beneath the radar of this buffer with impunity?
Watson	Rebecca	Enduring Resources IV, LLC	New alternative	According to analyses relied on by BLM in 2020, the Navajo Nation Council's compromise five-mile buffer can protect the CCHNP from the sounds and lights (with mitigation) of mineral development. Because of the area's geology, a natural "buffer," six miles from the CCHNP boundary, will prevent mineral development closer to the CCHNP - there is no Mancos-Gallup oil within six miles of the CCHNP boundary. The Navajo Nation compromise five-mile "no federal leasing" buffer would allow development of Allottee (and federal) minerals while protecting resource values at the CCHNP, but the ten-mile Withdrawal will eliminate the development of any Allottee minerals. Enduring Figure E, lands highlighted in yellow. The Withdrawal would violate both the consultation and trust responsibilities the Secretary owes the Navajo Nation and Allottees.
Watson	Rebecca	Enduring Resources IV, LLC	New alternative	The Navajo Nation Council and the Navajo Allottees have urged the Department to consider their officially adopted compromise five-mile "no federal leasing buffer" to protect the ability of the Allottees to develop their fee minerals. Their position is consistent with the Department's trust responsibility to the Navajo Nation and to the Navajo Allottees.
Winchester	Jim	Independent Petroleum Association of New Mexico	New alternative	Geology: A five-mile buffer offers the best balance to protect public lands without impeding upon responsible leasing development for geological reasons. At six miles from the Chaco Cultural Historic National Park boundary, the geology changes dramatically to end the Mancos-Gallup unconventional oil play. The Mancos-Gallup resource simply does not exist south of a NW-SE trending line correlating to where the Fruitland Formation outcrops on the southern end of the San Juan basin. This geologic fact informed the Navajo Nation's willingness to compromise on a five-mile buffer, the Navajo Allottees were not giving away future royalty income, because there was no oil resource to be recovered within six miles of the CCHNP boundary. Similarly, this geologic fact will protect the Secretary's Withdrawal "purpose" to keep oil and gas development further away from the Chaco Cultural Historic National Park Protection: The BLM's discussion of the buffer alternatives in the 2020 Mancos-Gallup Resource Management Plan Amendment Draft Environmental Impact Statement demonstrates that the Chaco Cultural Historic National Park resources can be protected by a five rather than ten-mile buffer. The BLM examined the rationale for Chaco Cultural Historic National Park restriction zones and found that "part of the integrity of these historic properties is related to association, setting and feeling; therefore, potential adverse effects can be related to the visual and auditory environment." The Navajo Nation Council and Navajo Allottee Compromise 5-mile buffer demonstrates that Chaco Cultural Historic National Park can be adequately protected, with mitigation, from the sounds and lights of mineral development. Shared Interests. IPANM members collectively hold hundreds of thousands of leased acres in the San Juan Basin. These operators provide hundreds of good-paying jobs to the surrounding communities. Likewise, these operators have demonstrated a strong commitment to safety and environmental values within their leases. Moreover, IPANM member employees take an active involvement in the community through charitable giving and the sponsorship of events held by non-profit organizations.
Eaton	Marietta	N/A	BLM alternative	Certainly, the current proposed buffer zone should, at a minimum be adopted, but broader survey and protection should be included in additional management possibilities should be considered in both the proposed withdrawal zone and across the FFO in the future.
Ashikeh	Karen	Earth Neighborhood Productions	Regulations, laws, policies	The development of the site for drilling threatens water quality, wildlife and disturbs migratory patterns of animals and birds, and is a violation of USA International treaties to protect migrating animals, agreed upon and signed by in the USA, in the 1980s, under International Migratory Treaties.
Beasley	Allyson	Western Environmental Law Center	Regulations, laws, policies	The visibility protection program under sections 169A, 169B, and 110(a)(2)(J) of the CAA is designed to protect Class I areas from impairment due to manmade air pollution. The current regulatory program addresses visibility impairment in these areas that is "reasonably attributable" to a specific source or small group of sources, such as, here, air pollution resulting from oil and gas development and operations authorized by the RMPA. See 64 Fed. Reg. 35,714. Moreover, EPA finds the visibility protection provisions of the CAA to be quite broad. Although EPA is addressing visibility protection in phases, the national visibility goal in section 169A calls for addressing visibility impairment generally, including regional haze. See e.g., State of Maine v. Thomas, 874 F.2d 883, 885 (1st Cir. 1989) ("EPA's mandate to control the vexing problem of regional haze emanates directly from the CAA, which 'declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in Class I areas which impairment results from manmade air pollution.' ") (citation omitted). Here, there are numerous Class I areas within or near the Greater Chaco, but outside of the proposed 10-mile withdrawal area, that may be impacted by continued oil and gas development, including: Bandelier National Monument, Wheeler Peak Wilderness, San Pedro Parks Wilderness, Cruces Basin Wilderness, Chama River Canyon Wilderness and Pecos Wilderness in New Mexico, as well as Weminuche Wilderness, La Garita Wilderness, South San Juan Wilderness, Great Sand Dunes National Park, and Mesa Verde National Park in Colorado. The New Mexico Environment Department is currently in its second implementation period for its regional haze State Implementation Plan (SIP). This parallel process does not obviate the BLM's NEPA obligation to take a hard look at visibility effects of air pollution across the Greater Chaco Landscape—rather, it underscores the need to ensure that air quality analyses and protections across state and federal agencies are mutually reinforcing, rather than fragmented.
Cottrell	Sarah	State of New Mexico, Energy, Minerals and Natural Resources Department	Regulations, laws, policies	Withdrawing the unleased federal public lands within the 10-mile buffer complements efforts taken by the New Mexico Commissioner of Public Lands to withdraw state lands within the same area. See New Mexico Commissioner of Public Lands, E.O. 2019-02 - Moratorium on New Oil and Gas and Mineral Leasing in Greater Chaco Area (April 27, 2019)
Garcia Richard	New Mexico Commissioner of Public Lands Stephanie	New Mexico State Land Office	Regulations, laws, policies	In 2019, New Mexico's Commissioner of Public Lands Stephanie Garcia Richard signed Land Office Executive Order 2019-002, placing a moratorium on new oil and gas development on New Mexico state trust land in a 12-mile buffer zone around Chaco Canyon. The Executive Order protects 72,776 acres near the renowned World Heritage site.
Glasenapp	Logan	New Mexico Wild	Regulations, laws, policies	The proposed withdrawal would help DOI achieve consistency with the New Mexico State Land Office's withdrawal of state lands surrounding CCNHP. Under the Federal Land Policy and Management Act, BLM must ensure that its land management efforts are consistent "with State and local plans to the maximum extent" possible. ⁵¹ While this requirement does not require absolute consistency between federal and state/local plans, "it ensures that the States' interests . . . will not be ignored. . . ."52 51 43 U.S.C. § 1712(c)(9). 52 Cal. Coastal Comm'n v. Granite Rock Co., 480 U.S. 572, 596 (1987) (Powell, J., dissenting). On April 27, 2019, New Mexico State Land Commissioner Stephanie Garcia Richard issued Executive Order (EO) No. 2019-002 - Moratorium on New Oil and Gas and Mineral Leasing in Greater Chaco Area. The EO explains that "the protection of Chaco Culture National Historical Park and other sites is essential to safeguard archaeological and cultural resources of the tribes, nations and pueblos, the State of New Mexico and the United States. . . ."53 Accordingly, the EO "withholds" state trust lands "from new leasing for oil and gas or mineral purposes" within the proposed withdrawal area "until December 31, 2013. . . ."54 Because DOI's proposed withdrawal would have the same effect on federal lands (for a period for twenty years), it would help DOI achieve "maximum consistency" with the State of New Mexico's current plan for the landscape surrounding Chaco Canyon. 53 SLO EO 2019-002 54 Id.
Guenther	Robert	Sangre de Cristo Chapter of The National Audubon Society	Regulations, laws, policies	This 10-mile moratorium on BLM lands also would augment the existing moratorium on new oil and gas drilling imposed by the State of New Mexico on state trust lands within 12 miles of Chaco Canyon.
Smitherman	John	New Mexico Oil & Gas Association	Regulations, laws, policies	The NEPA-driven BLM/BIA Farmington Mancos-Gallup Resource Management Plan and NMOCDD regulations require protection of the archeological resources, the surface, water, sensitive plant species and protected bird and animal species as a pre-condition for the issuance of drilling permits and require operational "best practices" and tightly monitored air emissions. Recently adopted regulations from the Oil Conservation Commission and enforced by the Oil Conservation Division further protect both the environment and any inhabitants of the area. Further, new regulations from the New Mexico Environment Department which are in the final stages of development, will further protect all inhabitants around oil and gas development. These robust protections will ensure that development of these valuable resources will be done while protecting the CCNHP.
Trujillo	Arvin	Four Corners Economic Development, Inc.	Regulations, laws, policies	The Bureau of Indian Affairs is required to comply with 25 CFR, Parts 211, 212 and 225 that mandates the development of mineral resources in a manner that maximizes the economic interests of Indian mineral owners. The ten-mile proposal is clearly counter to this obligation.
Beasley	Allyson	Western Environmental Law Center	FLPMA	What the agency has failed to do thus far, however, is apply this analysis to its substantive duty to avoid unnecessary and undue degradation under FLPMA. 43 U.S.C. § 1732(b). These requirements are distinct from BLM's requirements under NEPA. "A finding that there will not be significant impact [under NEPA] does not mean either that the project has been reviewed for unnecessary and undue degradation or that unnecessary or undue degradation will not occur." Ctr. for Biological Diversity v. United States DOI, 623 F.3d 633, 645 (9th Cir. 2010) (quoting Kendall's Concerned Area Residents, 129 I.B.L.A. 130, 140 (1994)). The inquiry, then, is whether BLM has taken sufficient measures to prevent degradation unnecessary to, or undue in proportion to, its oil and gas leasing decisions. See Theodore Roosevelt Conservation Partnership, 661 F.3d at 76. BLM must define what constitutes "unnecessary or undue degradation" in the context of continued oil and gas leasing and development, either at a programmatic level or within a specific project-and with particular consideration of greenhouse gas emissions and resulting climate impacts-and explain why its chosen alternatives in a particular project will not result in such degradation, as required by FLPMA, 43 U.S.C. § 1732(b).
Beasley	Allyson	Western Environmental Law Center	FLPMA	Any continued fossil fuel leasing and development across Greater Chaco would cause unnecessary and undue degradation that is prohibited under FLPMA The Federal Land Policy and Management Act ("FLPMA"), 43 U.S.C. § 1701 et seq., directs that "the public lands be managed in a manner that will protect the quality of [critical resource] values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use." 43 U.S.C. § 1701(a)(8). This substantive mandate requires that BLM not elevate the development of oil and gas resources above other critical resource values in the planning area. To the contrary, FLPMA requires that where oil and gas development would threaten the quality of critical resources, conservation of these resources should be the preeminent goal.
Beasley	Allyson	Western Environmental Law Center	FLPMA	Take into account FLPMA's mandate to prevent unnecessary and undue degradation.
Brown	Dave	DJR Operating, LLC	FLPMA	- Public Land Withdrawal: The Federal Register (FR) notice of January 6, 2022, states the withdrawal would include 351,479.97 acres of public lands to entry under United State mining laws and from leasing under the Mineral Leasing laws for 20 years. The FR notice states the withdrawal is necessary to protect the lands from industrial impacts associated with oil and gas development and locatable mineral exploration and mining but would be subject to valid existing rights. This would suggest that tribal allotments and/or existing mineral activities within the buffer would be allowed. To place the extent of this land withdrawal into perspective, the total represents over 27% of BLM/public land within the planning area analyzed in the recent Farmington Mancos-Gallup 2020 Draft Resource Management Plan Amendment. With this being the case, it is imperative the Secretary of Interior follows the procedures set out in FLPMA Sec. 204, 432 U.S.C. 1714. There are a number of elements the Federal Land Management Policy Act (FLMPA) requires for a withdrawal of public lands which also includes a report to Congress. DOI should include a robust analysis of the elements set out in FLPMA, and the impact to mineral owners (including allottees) and lessees in particular, along with economic impacts to the state and local governments in order to comply with the requirements of FLMPA.
Carlesco	Adam	Food & Water Watch	FLPMA	Though 42 U.S.C. § 1714(c)(1) of the Federal Land Policy Management Act (FLPMA) limits the term of temporary withdrawal to 20 years, the Secretary of Interior and BLM possess authority to provide further protections in perpetuity for this land than temporary withholding of leasing. Under FLPMA, DOI has the authority to suspend pre-existing leases where the Secretary of Interior "determines that such a suspension is necessary to protect health or safety or the environment" ³ and may employ any means necessary to halt "unnecessary or undue degradation" of public lands. ⁴ It is evident from the BLM's stated purpose of this withdrawal that oil, gas, and extractive industry are detrimental to the cultural, natural, and scientific resources of the Chaco Canyon area and unnecessarily degrade public land. Moreover, given the ancient nature of the cultural artifacts within the withdrawal area it is clear that temporary withdrawal is not sufficient to protect the preserved environment of the Chaco Canyon area. 3 43 U.S.C. § 1732(c). 4 43 U.S.C. § 1732(b). Continued oil, gas, and mining extraction within this withdrawal zone is not conducive to the stated purpose of this proposal and undermines DOT's efforts to protect the Chaco Canyon area for future generations. DOI possesses the legal authority to suspend leases for extractive purposes due to its impact on the environment and public health and should employ any means necessary to prevent the unnecessary and undue degradation caused by continued extractive use of these public lands within the withdrawal area.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Carlesco	Adam	Food & Water Watch	FLPMA	The Secretary of Interior and DOI possess far more authority to prevent ongoing injury to the Chaco Canyon area than is proposed within this withdrawal notice and the Department should pursue these more comprehensive approaches. Under federal law, DOI possesses the authority to redefine internal administrative boundaries, changing borders of BLM land and transferring particular parcels to other internal sub-divisions of DOI, such as the National Park Service (NPS).6 The National Park Service Organic Act declares that the NPS has a dual mission, both to conserve park resources and provide for their use and enjoyment "in such a manner and by such means as will leave them unimpaired" for future generations.7 To best protect such valuable should transfer authority of the 350,000 acres in question to a joint stewardship system between NPS, BIA, and affected tribes. BLM has transferred land to NPS on many occasions;8 in this instance the area should be managed as a national park and tribal heritage area - not BLM production land. Even though BLM is limited to a 20-year withdrawal per FLPMA,9 a 20-year withdrawal from leasing only delays oil and gas leasing and degradation - it does not permanently preserve and protect the important cultural and natural resources of the area. However, if the withdrawal area was instead transferred to NPS, with joint management among BIA and local tribal authorities, the area would be assured the highest level of protection accorded federal lands and its management held to a higher standard than those required by FLPMA. 6 54 U.S. Code § 100506 7 16 U.S.C. §1. 8 See, e.g., NPS, BLM Transfers Land to NPS, July 27, 2007, https://www.nps.gov/pefo/learn/news/blm-transfers-land-to-nps.htm ; 9 42 U.S.C. § 1714(c)(1).
Glasenapp	Logan	New Mexico Wild	FLPMA	69 BLM must manage public lands according to "multiple use" and "sustained yield" and "in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archeological values."70 Multiple use obligates the agency to make the "most judicious use" of public lands and their resources to "best meet the present and future needs of the American people."71 This requires taking "into account the longterm needs of future generations," ensuring "harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment."72 Importantly, BLM must also "take any action necessary to prevent unnecessary or undue degradation of the lands."73 The significant adverse impacts caused by burning fossil fuels from oil and gas development and production on public lands directly and urgently threaten BLM's ability to uphold its statutory mandates under FLPMA. 69 See 43 U.S.C. § 1701-1785; 42 U.S.C. § 4321-4370h; 30 U.S.C. § 226(a), (b), (m); 43 C.F.R. § 3101.1-2 (2019). 70 43 U.S.C. § 1701(a)(7) & (8), § 1712(c)(1), § 1732(a). 71 Id. § 1702(c). 72 Id. 73 Id. § 1732(b).
Glasenapp	Logan	New Mexico Wild	FLPMA	BLM's multiple use mandate requires careful and thoughtful balancing between developing and conserving resources and decision-making based on current inventories of "public lands and their resource and other values."78 Over the years, the balance in the Farmington Field Office has swung decidedly away from conserving cultural and natural resources and toward development. Accordingly, BLM and DOI have an affirmative obligation to comply with the multiple use mandate by prioritizing conservation alternatives for the Greater Chaco Landscape. The proposed withdrawal area is a necessary and, in the context of the larger field office, minimal, buffer required to prioritize protection over additional development in the Greater Chaco Region. 78 See 43 U.S.C. § 1702(c) (directing BLM to achieve "a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and non-renewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values").
				As we all know, multiple use does not require all uses on all acres; rather they require adaptive and flexible management to respond to developing science, while protecting scenic, historical, ecological, environmental, and archeological values. Multiple use also requires the most judicious use of our public lands, with an eye towards the present and future needs of the American people. This requires consideration of not only the short-term economic benefits, but also the long-term impacts and productivity of the landscape, and the quality of the environment.
Glasenapp	Logan	New Mexico Wild	FLPMA	Finally, under BLM's requirements, the agency must take any action necessary to prevent undue degradation of our public lands.
Meissner	Lisa	Santa Clara Pueblo	FLPMA	It is important to note that the Chaco administrative withdrawal under consideration by DOI does not affect any development rights on non-public lands nor does it affect valid existing mineral rights even on public lands. The contemplated Chaco administrative withdrawal would not affect any lands that do not qualify as public lands, and thus it would not apply to the Navajo Nation's lands, Navajo allottees' lands, New Mexico State lands,47 or privately owned lands. Indeed, FLPMA's withdrawal authority is explicitly limited to federal lands and minerals.48 In keeping with this limited authority, DOI has said the Chaco administrative withdrawal "would not apply to minerals owned by private, state, or Tribal entities."49 DOI in its Tribal consultation letter affirmed that the "withdrawal applies only to federally owned minerals within the boundary and would not apply to private, allotted, or Indian mineral interests."50 During public meetings on the Chaco administrative withdrawal, DOI has repeated the message that the withdrawal would affect only public lands and would not affect Tribal or allottee lands. 47 The State of New Mexico has already undertaken to withdraw New Mexico State trust lands within the 10-mile withdrawal area. Moratorium on New Oil and Gas and Mineral Leasing in Greater Chaco Area, N.M. Comm'r of Pub. Lands Exec. Order No. 2019-002 (Apr. 27, 2019). 48 See 43 U.S.C. §§ 1702(j), 1714 (providing authority for withdrawal only of federal land). 49 Press Release, Bureau of Land Mgmt. (Jan. 5, 2022) ("The two-year segregation and potential withdrawal . . . would not apply to minerals owned by private, state, or Tribal entities."). 50 Letter from Bartholomew Stevens and Melanie Barnes to J. Michael Chavarria, at 1 (Mar. 25, 2022); see also id. at 2 ("The segregation and withdrawal applies only to federally owned minerals and does not preclude Navajo allottees and other landowners from leasing their minerals for development.") Further, all land withdrawals under FLPMA are "subject to valid existing rights,"51 which may include valid rights established under the General Mining Law of 1872.52 DOI has repeatedly acknowledged that such valid existing rights will not be affected by the Chaco administrative withdrawal.53 Thus, ongoing mineral development could continue-even on public lands otherwise located within the withdrawal area. We note that DOI may conduct a review of valid existing rights on land proposed for withdrawal to assess the validity of these claims.54 51 43 U.S.C. § 1701 note (stating in Savings Provision withdrawal is subject to valid existing rights). 52 30 U.S.C. § 21 et seq. 53 See, e.g., Press Release, Bureau of Land Mgmt. (Jan. 5, 2022) ("The two-year segregation and potential withdrawal would not affect existing valid leases. . . ."); Letter from Bartholomew Stevens and Melanie Barnes to J. Michael Chavarria, at 2 (Mar. 25, 2022). 54 See Havasupai Tribe v. Provencio, 906 F.3d 1155, 1160 (9th Cir. 2018). Additionally, examining the land ownership map of the withdrawal area,55 it is clear that almost all allotments that are located in the withdrawal area abut non-federal land that would not be withdrawn. Further, when allotments do touch federal land, often there is already ongoing development on that federal land that would not be prevented by the withdrawal.56 Thus, there will be very few allotments isolated by surrounding withdrawn federal land alleviating concerns that the contemplated withdrawal could possibly inadvertently harm isolated allotment parcels. 55 Bureau of Land Mgmt., Proposed Withdrawal: Chaco Culture National Historical Park Surrounding Area (Jan. 6, 2022), https://eplanning.blm.gov/public_projects/2016892/200507919/20052736/250058919/ProposedChacoAreaWithdrawalMaP_FF0_106_2022.pdf . 56 Bureau of Land Mgmt., Proposed Chaco Cultural Heritage Withdrawal Area and Current Development and Mancos Reasonable Foreseeable Development (Nov. 27, 2019). Last, the Chaco administrative withdrawal would simply maintain existing development expectations and the current status quo. Completion of DOI's administrative withdrawal would only make more permanent the development rules that have been in play for years.
Meissner	Lisa	Santa Clara Pueblo	FLPMA	Our only concern is the time it will take for this administrative withdrawal to be approved and put into effect. We urge DOI to swiftly exercise its FLPMA authority upon completion of its review process.
Meissner	Lisa	Santa Clara Pueblo	FLPMA	This withdrawal would properly limit mining activities under those laws to maintain public values in the area and to reserve the area for a particular public purpose: protection of a sacred and irreplaceable cultural landscape. Withdrawing the contemplated public lands for the protection of these "historical" and "archeological" values is consistent with DOI's congressionally delegated authority under FLPMA. Additionally, the DOI's action here would be consistent with the protections it accorded to the sacred Sweet Grass Hills upheld by the D.C. Circuit and to the Grand Canyon Watershed upheld by the Ninth Circuit. Further, the size of the proposed withdrawal is not an issue. As the D.C. Circuit found, and the Ninth Circuit concurred, nothing in the law prevents a large-tract withdrawal under FLPMA for the purposes of protecting cultural and Tribal resources. Due to the density of cultural and sacred sites across the Greater Chaco Region, and especially within the 10-mile withdrawal area, withdrawing lands on a parcel-by-parcel basis would be tremendously burdensome on the federal government as well as Tribal Nations. As the National Trust for Historic Preservation noted: "It is the natural and cultural landscape as a whole, and not just individual sites, that make this Chacoan region worthy of protection and yet, most Chacoan sites and roads located on federal lands outside the Park . . . are at risk from . . . energy development."21 Critically, landscape-wide protections are implicitly supported by FLPMA, which lays out clear procedures for large-tract withdrawals such as that contemplated for Chaco. 21 Greater Chaco Landscape, NAT'L TR. FOR HIST. PRES., https://savingplaces.org/places/greater-chaco-landscape (last visited April 20, 2022) (noting the Greater Chaco Landscape's inclusion on the Trust's "11 Most Endangered Historic Places list for 2011").
Mitchell	Mark	All Pueblo Council of Governors	FLPMA	Due to the density of cultural and sacred sites across the Greater Chaco Region, withdrawing lands on a parcel-by-parcel basis would be tremendously burdensome on the federal government as well as Tribes. Critically, landscape-wide protections are implicitly supported by FLPMA, which lays out clear procedures for large tract withdrawals such as that contemplated for Chaco.
Mitchell	Mark	All Pueblo Council of Governors	FLPMA	DOI's contemplated Chaco administrative withdrawal meets FLPMA's administrative withdrawal standard. The Greater Chaco Region is replete with archeological and cultural resources on a scale of which DOI is only fractionally aware. The Pueblos have been connected to these lands in an unbroken line stretching back to our ancestors. Our historic and ongoing interaction with Chaco Canyon has resulted in a dense concentration of cultural resources-including vast ancestral Puebloan structures, shrines, sacred sites, natural formations with culturally relevant modifications and understandings-and an interconnected landscape important to the maintenance of our governance systems, languages, cultures, and traditions. Thus, DOI's contemplated Chaco administrative withdrawal would properly withhold under FLPMA an area of federal land from location and entry under certain mineral development land laws for the purpose of limiting activities under those laws to maintain public values in the area and reserve the area for a particular public purpose: protection of a sacred and irreplaceable cultural landscape. Withdrawing the contemplated lands for the protection of these "historical" and "archeological" values would be consistent with the Secretary's congressionally-delegated authority under the FLPMA. Additionally, the Secretary's action here would be consistent with the protections it previously accorded that were successfully upheld by the federal courts.
Mitchell	Mark	All Pueblo Council of Governors	FLPMA	Nothing in FLPMA or our case law indicates that the Secretary may not withdraw large tracts of land in the interest of preserving cultural and tribal resources. Nor is there any reason to believe that a withdrawal must be restricted to narrow carveouts tracing the perimeter of discrete cultural and historical sites, as opposed to a larger area containing multiple such sites. Courts have previously upheld large-tract withdrawals justified in part by the protection of tribal resources and "areas of traditional religious importance to Native Americans." See, e.g., Mount Royal Joint Venture v. Kempthorne, 477 F.2d 745, 752 (D.C. Cir. 2007).51 51 Id.
				Standards for FLPMA Withdrawal: Congress has authorized the federal lands Withdrawal process in 43 U.S.C. Section 1714 of the Federal Lands, Policy, and Management Act of 1976, or FLPMA. Where the proposed Withdrawal is 5,000 acres or more, the proposed Chaco Withdrawal is 635,000 acres. That section requires the Secretary of Interior to provide Congress a detailed report addressing the number of issues relating to the Withdrawal. In carrying out the Administrative Withdrawal under FLPMA, the Secretary must comply with the National Environmental Protection Act, as well as producing a report on the identification of Cultural Resources, in accordance with Section 106 of the National Historic Preservation Act. While Congress has legal authority to veto a large tract, it has never exercised its authority to carry out such a veto. An important provision of FLPMA's Withdrawal provisions is the provision that the land Withdrawals are subject to its valid existing rights. Chaco meets FLPMA Withdrawal standards. Both the language of FLPMA and its regulations, as well as court rulings on Withdrawal, clearly support withdrawal of mining claims, in order to protect tribal cultural resources and areas of traditional religious importance. The only two appellate cases addressing Withdrawal centered upon protection of tribal cultural resources, and upheld the Withdrawal, including the 9th Circuit Court of Appeals in 2017, in its decision in National Mining, and a D.C. Circuit 2007 decision in the Mount Royal Joint Venture V. Kempthorne. Given the cultural importance of the Greater Chaco Region, it is unparalleled, and deeply affects numerous Pueblos and other Tribal Nations, whose roots go back thousands of years, when their ancestors inhabited the region.
Mitchell	Mark	APCG	FLPMA	There is no question that this land Withdrawal meets the requirements of FLPMA and must be carried out.
Moquino	Christopher	Pueblo de San Ildefonso	FLPMA	As noted above, our Pueblo along with the 20 member Pueblos of APCG each hold a distinct and unique cultural affinity to the Greater Chaco Region. For this reason, APCG has encouraged DOI to use its FLPMA authority to withdraw federal lands and minerals in the especially critical 10-naile withdrawal area surrounding the CCNHP, and including its outliers, to protect the invulnerable cultural resources needed to maintain each Pueblo's languages, culture, customs, and traditions. Our Pueblo echoes APCG's assertion that DOI's contemplated administrative withdrawal for Chaco is fully consistent with FLPMA's administrative withdrawal standard and with previous federal court rulings on administrative withdrawals by DOI.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Vicente	Randall	Pueblo of Acoma	FLPMA	The Ninth Circuit held that "FLPMA permits the Secretary to premise a withdrawal of public lands from new mining claims on the protection of cultural and tribal resources."84 The Court noted that: [t]he congressional policy statement included in FLPMA contemplates that Interior will manage public lands in part for the protection of "historical" and "archaeological" values. 43 U.S.C. § 1701(a)(8). Consistent with that mandate, Interior's regulations require that an EIS, prepared in compliance with NEPA, include a full report on "the identification of cultural resources" possibly impacted by agency action. 43 C.F.R. § 2310.3-2(b)(3)(1). 84 National Mining, 877 F.3d 845, 869 (9th Cir. 2017) (Emphasis added). Nothing in FLPMA or our case law indicates that the Secretary may not withdraw large tracts of land in the interest of preserving cultural and tribal resources. Nor is there any reason to believe that a withdrawal must be restricted to narrow carveouts tracing the perimeter of discrete cultural and historical sites, as opposed to a larger area containing multiple such sites. Courts have previously upheld large-tract withdrawals justified in part by the protection of tribal resources and "areas of traditional religious importance to Native Americans." See, e.g., Mount Royal Joint Venture v. Kemphthorne, 477 F.2d 745, 752 (D.C. Cir. 2007).85 85 Id. In its ruling in favor of the DOI in the National Mining Ass'n case, the Ninth Circuit emphasized that "we must uphold the agency's [withdrawal] choice so long as it is 'supported by reasoned analysis.'"86 In October 2018, the Supreme Court denied the petition for certiorari challenging the Ninth Circuit's ruling filed by the National Mining Association. 86 877 F.3d at 868 (citing Ecology Ctr. V. Castaneda, 574 F.3d 652, 665 (9th Cir. 2009). As noted by the Ninth Circuit, the District of Columbia Circuit similarly endorsed a land withdrawal whose objective included "conserving, protecting, and enhancing the exceptional...cultural characteristics of lands along the Sweetgrass Hills in north central Montana, and specifically protecting 'areas of traditional religious importance to Native Americans...'"87 There are no reported cases in which a federal court has struck down a federal land withdrawal. 87 477 F.2d at 752. As noted above, Acoma has a unique cultural and religious affinity to the Greater Chaco Region. Historically and presently, Acoma has encouraged the federal government to use its FLPMA authority to withdraw federal lands and minerals in the especially critical 10-mile withdraw area surrounding the CCNHP, and including its outliers, to protect the innumerable cultural resources needed to maintain Acoma and other Pueblos' languages, culture, customs, and traditions that are so intimately and inextricably tied to this unique cultural landscape. DOI's contemplated Chaco administrative withdrawal meets FLPMA's administrative withdrawal standard.
Vicente	Randall	Pueblo of Acoma	FLPMA	Withdrawing the contemplated lands for the protection of these "historical" and "archeological" values would be consistent with the Secretary's congressionally-delegated authority under the FLPMA. Additionally, the Secretary's action here would be consistent with the protections it previously accorded that were successfully upheld by the federal courts. Further, the size of the proposed withdrawal is not an issue. As the D.C. Circuit found, and the Ninth Circuit concurred, nothing in the law prevents a large tract withdrawal under FLPMA for the purposes of protecting cultural and Tribal resources. Due to the density of cultural and sacred sites across the Greater Chaco Region, withdrawing lands on a parcel-by-parcel basis would be tremendously burdensome on the federal government as well as Tribes. Critically, landscape-wide protections are implicitly supported by FLPMA, which lays out clear procedures for large tract withdrawals such as that contemplated for Chaco.
Atencio	Mario	N/A	Air quality and climate change	The approval of synthetic minor air permits to emit over 100 tons of Volatile Organic Components has NEVER been discussed with local allottees or local chapters of Navajo Nation Government. Please frame your outreach from an environmental justice perspective.
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	Background concentrations of ozone in areas of the Farmington Field Office are already close to exceeding the National Ambient Air Quality Standards ("NAAQS"), leaving no room for increased emissions that will further contribute to these harmful levels of ozone - namely, nitrogen oxides ("NOX") and volatile organic compounds ("VOCs"). San Juan County, which is in the planning area, has consistently received a failing grade of "F" from the American Lung Association for high ozone levels in the area.139 Any increase in emissions of ozone precursors will exacerbate the negative health effects of ozone in the region, and is almost certain to threaten compliance with EPA's ozone standard. 139 See Exhibit 40, American Lung Association, State of the Air 2022, available at https://www.lung.org/research/sota/city-rankings/states/new-mexico ; See also State of the Air 2020 (Dec. 3, 2019), at 123. Available at https://www.stateoftheair.org/assets/SOTA-2020.pdf . Sandoval County also received an "F" for high ozone days. Notably, the ALA does not have an analogous score for San Juan County on its report card on PM2.5, instead, it says "DNC," or "data not collected" which "indicates that data on that particular pollutant are not collected in that county"; See also, American Lung Association, State of the Air 2016, at 115 (2016). Available at https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2016-full.pdf [Hereinafter ALA, State of the Air 2016].
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	Global carbon budgets represent tools presently available to BLM to use in analyzing and disclosing to the public the significance of BLM's fossil fuel decisions on GHG emissions and their implications for climate change. The global carbon budget is rapidly being spent, and every additional ton of emissions is a debit against the climate. BLM should measure the cumulative emissions resulting from its decisions against the remaining global carbon budget, thereby providing BLM and the public the necessary context for understanding the significance of BLM's decision-making. See 40 C.F.R. § 1508.27(a).
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	In short, research shows that vastly more fossil fuel reserves exist than can be burned to stay within safe climate limits. U.S. federal fossil fuel resources alone are a significant source of GHG emissions, and federal lands contain important carbon sinks that must not be eliminated or degraded. In order to fulfill its obligations under NEPA, BLM must use the best available science to analyze and disclose to the public the impacts of its planning and management decisions on GHGs and climate change.
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	The term climate justice, while used in different ways in different contexts by different communities, generally includes three principles: distributive justice which refers to the allocation of burdens and benefits among individuals, nations and generations; procedural justice which refers to who decides and participates in decision-making; and recognition which entails basic respect and robust engagement with and fair consideration of diverse cultures and perspectives. 73 73 Id. at 9. When analyzing and disclosing GHG emissions and climate impacts from its oil and gas planning, leasing, and permitting decisions, BLM should include an assessment and discussion of each of these climate justice principles--and meaningfully incorporate each of them into its decision-making.
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	BLM Must Take a Hard Look at Air Quality Impacts of Continued Leasing and Drilling in the Greater Chaco BLM must take a hard look at the direct, indirect, and cumulative air quality impacts from oil and gas development in the Greater Chaco. As with other impacts, a ten-mile withdrawal alone will not sufficiently mitigate or eliminate these impacts across the Greater Chaco landscape and its people and communities. Oil and gas development is one of the largest sources of air pollution in the U.S.135 It emits nitrogen oxides ("NOX") and volatile organic compounds ("VOCs") (both of which react to form ozone), as well as sulfur dioxide (SO2). As the Endocrine Disruption Exchange has noted: 135 Exhibit 38, Clean Air Task Force, Fossil Fumes: A Public Health Analysis of Toxic Air Pollutants from the Oil and Gas Industry (2016), http://www.catf.us/resources/publications/files/FossilFumes.pdf
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	Take a hard look at risks and impacts of oil and gas extraction, fracking, and related development, including cumulative risks and impacts, to climate, air, water, human health, social and cultural impacts, and environmental justice, and consider conducting a detailed Health Impact Assessment ("HIA") or similar assessment, and meaningfully incorporating that and existing information about risks and impacts into its decision- making and planning.14 14 "HIA is a process that helps evaluate the potential health effects of a plan, project, or policy before it is built or implemented. HIA brings potential positive and negative public health impacts and considerations to the decision- making process for plans, projects, and policies that fall outside traditional public health arenas, such as transportation and land use. An HIA provides practical recommendations to increase positive health effects and minimize negative health effects." Centers for Disease Control and Prevention (CDC), "Health Impact Assessment" (Sept. 19, 2016), https://www.cdc.gov/healthyplaces/hia.htm See also Counselor HIA-KBHIS Committee, A Cultural, Spiritual, and Health Impact Assessment of Oil Drilling Operations in the Navajo Nation Area of Counselor, Torreon, and Ojo Encino Chapters (July 15, 2021) available at http://nmhep.org/wp-content/uploads/FINAL-HIA-KBHIS-06-52-2021-00-copy1.pdf , attached as Exhibit 5.
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	Also critical to the BLM's analysis of air quality impacts is the relationship between air quality impacts and human health.137 BLM also cannot rely solely on the National Ambient Air Quality Standards (NAAQS), or on other indicators such as the Air Quality Index ("AQI") or National Air Toxics Assessment ("NATA") and assume that attainment of these standards alone would satisfy its hard look NEPA obligations with respect to the impacts of its decisions on air quality and human health. BLM must analyze impacts in the context of poor baseline air quality conditions due to historical and ongoing oil and gas development across the Greater Chaco landscape, and the cumulative risks and impacts related to air quality, that continued leasing and development poses. 137 For a full discussion of health risks and impacts, see <i>infra</i>
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	BLM must also analyze and disclose impacts from hazardous air pollutants associated with fracking, including 1,3-butadiene and secondary formaldehyde. The BLM has completed a more comprehensive analysis of HAPs in other NEPA analyses which resulted in significant impacts from HAPs. For example, in the Gasco EIS in Utah, BLM evaluated short-term and long-term impacts from numerous HAPs, including methanol, chlorinated solvents and acrolein.149 The Gasco EIS analysis found elevated cancer risks for acetaldehyde, 1,3-butadiene, and ethylene dibromide.150 The Gasco EIS also reported acrolein emissions that exceeded the acute Reference Exposure Level (REL) and the Reference Concentration for Chronic Inhalation (RfC).151 Therefore, BLM can, and must, include a more comprehensive analysis of HAP impacts in future NEPA analyses involving oil and gas development (and the potential benefits of mineral withdrawal) in the Greater Chaco, and, in addition to the HAPs identified above, the BLM should also assess any HAP impacts associated with emissions from hydraulic fracturing fluids. It is important to continue to improve upon the HAP analyses conducted under NEPA in order to analyze and disclose to the public whether there are significant health impacts from near-field exposure to HAPs from additional oil and gas development in the Greater Chaco. See 40 C.F.R. §1508.27(b)(2). 149 See BLM Gasco Energy Project FEIS, Table 4-12, Table 4-19 and Appendix H. April 2010. 150 BLM Gasco FEIS Table 4-19. 151 BLM Gasco FEIS Appendix H, at H-45.
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	BLM must also take into account the lack of adequate monitoring for certain pollutants in parts of the planning area- e.g., the paucity of PM2.5 monitoring in the southern part of the planning area.
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	Once BLM analyzes and discloses to the public the relationship between air quality and human health, it must take this into account when identifying and selecting among a reasonable range of alternatives--e.g., in updated RMPs for the Farmington and Rio Puerco Field Offices.138 BLM must take a hard look at the impacts of air pollutant emissions and possible NAAQS exceedances on human health and explain its decision-making and selection of alternatives accordingly. "The agency must examine the relevant data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'" Motor Vehicle Mfrs. v. State Farm Ins., 463 U.S. 29, 43 (1983). 138 BLM must also take an independent hard look at human health (see <i>infra</i>)
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	Particulate matter, especially PM2.5, is another source of health risks and impacts and other adverse impacts related to air pollution in the Greater Chaco, at which BLM must take a hard look in its NEPA analyses. PM2.5 can become lodged deep in the lungs or can enter the bloodstream, worsening the health of asthmatics and even causing premature death in people with heart and lung disease.142 Even PM2.5 concentrations lower than the current NAAQS are a concern for human health.143 And it is likely that current PM2.5 levels will increase with continued oil and gas development in the area. PM2.5 is of particular concern here given the lack of monitoring in the southern part of the Farmington Field Office. Elevated wintertime concentrations could also adversely affect the area as they have other areas of concentrated oil and gas development in the West, such as in the Uinta Basin in Utah.144 142 Id. at 6 143 Id. at 7 144 Several very high values of PM2.5 were recorded in Vernal, Utah starting in 2007, including six exceedances of the 24-hour PM2.5 NAAQS and a maximum 24-hour average PM2.5 concentration of 63 µg/m3. In 2009, there were three recorded exceedances of the 24-hour average PM2.5 NAAQS in Roosevelt, Utah with 24-hour average concentrations reaching 42 µg/m3 and four recorded exceedances in Vernal with 24-hour average concentrations as high as 60.9 µg/m3.
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	Short-term exposure to PM2.5 is also dangerous, and can even lead to premature death 147-- and BLM should not dismiss such exposures as too "temporary" to be significant. 147 See U.S. EPA, National Ambient Air Quality Standards for PM2.5, 78 FR 3085, 3086, 3095. Available at https://www.federalregister.gov/documents/2013/01/15/2012-30946/national-ambient-air-quality-standards-for-particulate-matter PM10 is also a criteria pollutant of concern in the region. While PM10 particles are larger than PM2.5 particles, they can still cause adverse respiratory health effects and exacerbate existing respiratory conditions. Monitoring data from Counselor Chapter, cited by BLM in Vol. I of its Farmington Draft RMPA/EIS at 3-14, Table 3-7, shows measured PM10 concentrations in 2016-2017 of up to 140.8 µg/m,3 which is about 94% of the 150 µg/m3 24-hour NAAQS threshold, "not to be exceeded more than once per year on average over 3 years."148 148 https://www.epa.gov/criteria-air-pollutants/naaqs-table
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	The current status of air quality in the planning area should be included in BLM's NEPA analyses of the air quality impacts of its oil and gas planning, leasing, and development decisions. Even if air monitoring data indicates that the region is not currently violating the NAAQS for a particular criteria pollutant, this does not mean that the NAAQS will never be violated or that emissions are never occurring at levels that are harmful to human health. Nor can the agency rely on current NAAQS attainment status to avoid further analysis and disclosure of impacts, or further consideration of alternatives that would reduce emissions and be more protective of public health. One court has already rejected a similar analysis prepared by the BLM in support of an oil and gas drilling plan in the Roan Plateau area of western Colorado. In that case, the BLM asserted that the lack of ozone violations indicated that future impacts would not be significant, and the court rejected this argument, stating: "The mere fact that the area has not exceeded ozone limits in the past is of no significance when the purpose of the EIS is to attempt to predict what environmental effects are likely to occur in the future[.]" Colo. Env'tl. Coal. v. Salazar, 875 F. Supp. 2d 1233, 1257 (D. Colo. 2012).
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	Analyze and disclose to the public new scientific, health, and economic information, including information about: (1) the impacts of greenhouse gas ("GHG") emissions, and related climate change impacts, in the San Juan Basin, the state of New Mexico, nationally and globally; (2) the social burden, or cost, of carbon and methane waste from oil and gas made available for development; (3) the need for a just transition away from the region's long dependence on fossil fuel development; (4) the present and reasonably foreseeable future economic realities of the fossil fuel industry, including market conditions and asset retirement obligations; and (5) the growing body of broad peer- reviewed research and data and local data and studies that document direct, indirect, and cumulative risks and impacts of oil and gas extraction, fracking, and related activity, including but not limited to public health and safety, social, cultural, and environmental justice risks and impacts.
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	BLM must assess the significance of the direct, indirect, and cumulative climate change impacts from its oil and gas leasing and development decisions across the Greater Chaco landscape. Simply providing GHG emissions in the abstract, or comparing incremental emissions to regional and national totals, however, fails to inform the decision-maker of the actual significance of the impacts. In other words, to appreciate the significance of the impacts of the RMPA, the decision-maker must understand the context- a global climate crisis.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Beasley	Allyson	Western Environmental Law Center	Air quality and climate change	BLM must complete the analysis it has begun in the "2020 BLM Specialist Report." A programmatic review is particularly critical following release of the "2020 BLM Specialist Report on Annual Greenhouse Gas Emissions and Climate Trends from Coal, Oil, and Gas Exploration and Development on the Federal Mineral Estate," (hereinafter the "Report") This report constitutes-in large part-the quantification and context of federal mineral estate- associated GHG emissions courts have faulted BLM for not providing in the past. BLM must now take the logical next step, by completing the programmatic NEPA analysis it has effectively begun with the Report. Failure to do so will represent not only a derogation of the action called for by EO 14008, but also a lost opportunity to meaningfully evaluate the outsized role the federal oil and gas leasing program plays in the climate crisis, and to explore alternatives to reduce its impacts. BLM has, with the Report, fulfilled the lowest common denominator of quantifying federal emissions against the backdrop of federal laws and climate science. It must now meaningfully analyze those emissions in light of remaining national and global carbon budgets, and must apply tools such as the Social Cost of Greenhouse Gases to describe the actual economic, ecologic, and human costs of the program at national and global scales. Section 7.2 of the Report briefly describes federal fossil fuel emissions in the context of various carbon budgeting mechanisms and global emissions commitments (such as under the Paris Agreement). However, more is required by NEPA, and it must be done at a programmatic level, as the quantification of GHGs was done. Just as uncertainty about the effects of an individual sale or permitted development does not absolve BLM from its duty to attempt to analyze those effects,43 uncertainty about the United States' equitable share of the remaining carbon budget, or variability in carbon budgeting methods does not justify a failure to analyze meaningful ways to address climate change and the oil and gas program's contributions to it. 43 Wildearth Guardians v. U.S. Bureau of Land Mgmt., 457 F. Supp. 3d 880, 894 (D. Mont. 2020) (The global nature of climate change complicates an assessment of the exact climate change impacts from the lease sales. This complication does not preclude BLM from complying with the Ninth Circuit's mandate to catalogue past, present, and reasonably foreseeable projects).
Bowannie	Chantel	Zuni Pueblo	Air quality and climate change	the current oil and gas drill sites emit noxious fumes that impact the surrounding community. The proposed withdrawal will help reduce the number of fumes and chemicals the surrounding area will have to deal with. The surrounding communities are small and are often the only sites of schools or stores for miles in either direction. Inundating these vital parts of the community with noxious fumes impacts the health of the communities.
Carlesco	Adam	Food & Water Watch	Air quality and climate change	As such, a cessation of fossil fuel reliance is needed to meet the administration's emissions goals as short-term settlements and withdrawals will not be sufficient to address the climatological challenge facing our world. 14 Our current understanding of the harms wrought by fossil fuels require the BLM to re-assess how public lands are managed in a way as to comply with FLPMA'S s multiple-use and sustained yield requirement15 - especially since continued extraction will limit sustained yield of non-mineral resources from public land and limit other non-extractive uses. 14 Scott Wyland, Feds to pause fracking on 45,000 acres near Chaco, Santa Fe New Mexican, Apr. 6, 2022, https://www.santafenewmexican.com/news/local_news/feds-agree-to-pause-fracking-on-45-000-acres-near-chaco/article_7a5f0154-b5e6-11ec-baba-53c568876480.html . 15 43 U.S.C. § 1701(a)(7).
Glasenapp	Logan	New Mexico Wild	Air quality and climate change	It is important to note that in addition to the vast cultural values and the need to protect the landscape, the proposed action also provides progress towards the necessary climate goal of limiting warming to 1.5 degrees Celsius. The Federal government is at a critical moment in time - the decisions made now will impact the climate and quality of life for future generations. DOI has the authority to adopt a programmatic as well as a localized approach to phase out and ultimately eliminate fossil fuel development and production on public lands and waters.
Not Provided	Not Provided	National Wildlife Federation, New Mexico Wildlife Federation, HECHO	Air quality and climate change	Existing energy development in the San Juan Basin has already compromised air and water quality, threatening the health of communities in the region and visitors to this sacred site. A recent study found that oil and gas companies operating in the basin emit 22,000 tons of methane per year.7 Methane is a precursor to tropospheric ozone, which can cause health issues, especially in babies, children, older adults, those with asthma or lung disease, and those who work or exercise outside.8 Another recent assessment highlighted the increased emission of pollutants related to oil and gas development, including nitrogen oxides (NOx), sulfur oxides (S2O), and particulate matter, and reported related health impacts in nearby residents.9 7 Diné C.A.R.E., Environmental Defense Fund, Grand Canyon Trust, NAVA Education Project & Western Leaders Network, Natural Gas Waste on the Navajo Nation (2021), available at https://www.edf.org/sites/default/files/content/NavajoEmissionsReport2021.pdf . 8 U.S. Centers for Disease Control and Prevention, Air Quality: Ozone and Your Health, available at https://www.cdc.gov/air/ozone.html . 9 Counselor Health Impact Assessment - K'è Bee Hózhooگو liná Silá Committee, A Cultural, Spiritual and Health Impact Assessment of Oil Drilling Operations in the Navaho Nation area of Counselor, Torreon and Ojo Encino Chapters (July 20, 2021). In its 2021 State of the Air report, the American Lung Association gave San Juan County an F grade for ozone, noting that there were 21 days in the three years preceding the report where ozone levels were considered unhealthy for sensitive groups.10 The Environmental Protection Agency tracked another eight days with unhealthy ozone levels in 2021.11 10 American Lung Association, State of the Air 2021 at 110 (2021), available at https://www.lung.org/getmedia/17c6cb6c-8a38-42a7-a3b0-6744011da370/sota-2021.pdf . The Environmental Protection Agency Air Quality Index identifies ozone concentrations between 71 and 85 parts per billion measured over 8-hours as unhealthy for sensitive groups. EPA, Air Quality Index Report, available at https://www.epa.gov/outdoor-air-quality-data/air-quality-index-report . 11 EPA, Air Quality Index Report, available at https://www.epa.gov/outdoor-air-quality-data/air-quality-indexreport .
Pinto	Kendra	Earthworks	Air quality and climate change	In addition, it is necessary to have the proper enforcement for hundreds of well sites that may and have likely already been releasing methane and volatile organic compounds into the atmosphere in quantities that cannot be properly quantified by the operators and regulatory agencies. With a hundred years of mineral withdrawal in the Greater Chaco landscape, the land cannot continue to be sacrificed for short term profits and no promise of remediation should it be needed in the future
Seamster	Teresa	N/A	Air quality and climate change	The EPA recently released an Environmental Justice Screening & Mapping Tool (Version 2.0) that provides demographic health data that gives percentages of residents in different age groups that are affected by illnesses related to continuous exposure to oil-gas well emissions. In the Navajo Chapters adjacent to Chaco CNHP, the asthma rate for residents 64 and older is 95-100%tile and Ozone levels are in the 90-95%tile. There are extensive new sources of local health data and air quality monitoring data available for verifying the ongoing and excessive amount of air pollution and related health effects on children, adults and elders who are forced to live next to oil wells. It is the clear duty of the BLM-Farmington and BLM Regional headquarters to specifically assess these environmental conditions and their cumulative impacts on the resident population.
Barnett	Gary	Grant County Archaeological Society	Water resources	According to the United States Geological Survey industrialized fracking consumes an average of 1.5 million to 9.7 million gallons of water per well. Water contaminated by fracking is more often disposed of instead of being decontaminated for human consumption or agriculture. Assuming that such massive amounts of water are even available in the Greater Chaco Landscape/Region for the purpose of fracking, the loss of so much water would endanger the existence of resident pueblo and tribal communities, as well as threaten the area's agricultural economy and the survival of the region's wildlife.
Beasley	Allyson	Western Environmental Law Center	Water resources	BLM must also consider the potential fracking impacts to groundwater from existing models. For example, see T. Myers, Potential Contaminant Pathways from Hydraulically Fractured Shale to Aquifers, GROUND WATER (April 17, 2012): Fracking can release fluids and contaminants from the shale either by changing the shale and overburden hydrogeology or simply by the injected fluid forcing other fluids out of the shale. The complexities of contaminant transport from hydraulically fractured shale to near- surface aquifers render estimates uncertain, but a range of interpretative simulations suggest that transport times could be decreased from geologic time scales to as few as tens of years. Preferential flow through natural fractures fracking-induced fractures could further decrease the travel times to as little as just a few years. Id. at 9. And see, N.R. Warner, Geochemical evidence for possible natural migration of Marcellus Formation brine to shallow aquifers in Pennsylvania, PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES, vol. 109, iss. 30, (July 9, 2012):
Beasley	Allyson	Western Environmental Law Center	Water resources	Likewise, BLM must quantify and address the risk of potentially catastrophic spills and blowouts at well sites, which could impact and degrade surface waters. This is a serious concern because such major spills are not uncommon in gas drilling. For example, a major well blowout in Pennsylvania sent thousands of gallons of contaminated fluid coursing into a stream feeding the Susquehanna River.217 In February of 2013, a major spill occurred in Windsor, Colorado where at least 84,000 gallons of water contaminated with oil and chemicals used in hydraulic fracturing spilled from a broken wellhead and into a field.218 217 Associated Press, Crews Stop Flow of Drilling Fluid from PA Well (Apr. 22, 2011) 218 See Finley, supra
Beasley	Allyson	Western Environmental Law Center	Water resources	Oil and gas development in the Greater Chaco could result in significant potential to contaminate groundwater resources. Such contamination may result during the following processes: (1) the state of chemical mixing due to spills, leaks, and transportation accidents; (2) during the fracking process due to well malfunctions, migration of fracking fluids or fluids from the fractured formation to aquifers, and mobilization of subsurface materials to aquifers; (3) during flowback due to releases, leakage of on-site storage, and spills from pits (caused by improper construction, maintenance, or closure); and (4) during wastewater disposal due to discharges of wastewater into groundwater, incomplete treatment, and transportation accidents.212 Fracking chemicals and wastewater may also contaminate groundwater supplies as a result of illegal dumping.213 As further discussed below, not all chemicals used in fracking have been fully disclosed, but many of those that have been disclosed or discovered are toxic, hazardous, or harmful to human health or welfare. Despite a general lack of adequate oversight of fracking operations, various instances of water pollution from fracking operations have been documented. 214 214 See, e.g., id. (reporting on lack of oversight); Western Organization of Resource Councils, Gone for Good: Fracking and Water Loss in the West (2013) at 17-18, 31 (noting lack of state oversight).
Beasley	Allyson	Western Environmental Law Center	Water resources	These potential water quality and quantity impacts are also an environmental justice issue, and can exacerbate or contribute to health inequities, particularly during the COVID-19 pandemic. Underlying inequities in access to safe, potable water amplify the health risks and cumulative impacts from spills and other water issues, and make it far more difficult to mitigate or avoid impacts or find alternative water supplies. For example, approximately 40% of families in the Navajo Nation already lack running water in their homes, and over half of households in some census block groups in the planning area lack complete plumbing.179 BLM must take a hard look at this information when analyzing the significance of water quality and quantity impacts of fracking and evaluating alternatives and mitigation measures for its decisions, particularly in the environmental justice context. 179 See Exhibit 50, Shiloh Deitz and Katie Meehan, Plumbing Poverty: Mapping Hot Spots of Racial and Geographic Inequality in U.S. Household Water Insecurity, Annals of the American Association of Geographers, Vol. 109, Issue 4 (March 8, 2019)
Beasley	Allyson	Western Environmental Law Center	Water resources	BLM Must Take a Hard Look at Water Impacts of Continued Leasing and Drilling in the Greater Chaco BLM must also analyze direct, indirect, and cumulative risks and impacts to water quality and quantity that will result from fracking and increased oil and gas development. As with other impacts, a ten-mile withdrawal alone will not sufficiently mitigate or eliminate these impacts across the Greater Chaco landscape and its people and communities. Recently, a federal district court in New Mexico held that BLM was required to quantify reasonably foreseeable impacts to water quantity, including "mak[ing] estimates of potential water usage for the different methods of hydraulic fracturing[.]" San Juan Citizens All. v. United States Bureau of Land Mgmt., 326 F. Supp. 3d 1227, 1245 (D.N.M. 2018); Diné CARE v. Bernhardt, 923 F. 3d 831, 854, 857 (10th Cir. May 7, 2019)(holding that BLM failed to assess cumulative impacts to water resources, and stating, "[o]nce the 2014 RFDS [reasonably foreseeable development scenario] issued, it became reasonably foreseeable to the BLM that the projected wells would be drilled, so the BLM needed to consider the cumulative impacts of all those wells, even if the wells were not going to be drilled immediately."). Thus, BLM is required to analyze the impacts to water quality and quantity in compliance with NEPA.
Beasley	Allyson	Western Environmental Law Center	Water resources	BLM must address the direct, indirect, and cumulative impacts to groundwater from past present and future fracking in the Greater Chaco, 40 C.F.R. § 1508.25(c), giving particular scrutiny to the potential for contamination of groundwater supplies.
Beasley	Allyson	Western Environmental Law Center	Water resources	BLM must also do more than merely quantify estimated water impacts-it must actually analyze them. See High Country, 52 F. Supp. 3d at 1190 ("Beyond quantifying the amount of emissions relative to state and national emissions and giving general discussion to the impacts of global climate change, [the agencies] did not discuss the impacts caused by these emissions."); Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt., 387 F.3d 989, 995 (9th Cir. 2004) ("A calculation of the total number of acres to be harvested in the watershed is . . . not a sufficient description of the actual environmental effects that can be expected from logging those acres.")
Beasley	Allyson	Western Environmental Law Center	Water resources	BLM must analyze and disclose to the public the direct, indirect, and cumulative impacts of oil and gas made available by the plan amendment on water supplies. 40 C.F.R. §§ 1508.7, 1508.8. This analysis must consider the potential sources of water in the FFO that would be used for oil and gas development, and the actual impacts of these water withdrawals on water availability for drinking supplies, other household uses, agriculture, and fish and wildlife. BLM should analyze and disclose the impacts to water quantity at different annual, seasonal, monthly, and daily time scales because the impacts of such water withdrawals could be more acute during times, months, and seasons of scarcity. For example, increased water withdrawals and water contaminations will be particularly harmful during times when much of the state is experiencing drought conditions,230 which will likely be exacerbated by climate change in the coming years. 230 See WORC, Gone for Good at 8
Beasley	Allyson	Western Environmental Law Center	Water resources	BLM must assess potential impacts to water quality. Fracking fluid and "produced water" are a conglomeration of many highly toxic chemicals and compounds. Required disclosures of "chemistry and water use information" on FracFocus do not include chemicals and compounds that are protected as confidential business information or trade secret.181 These undisclosed chemicals and compounds often make up a significant fraction of fracking fluid and produced water. For example, a 2016 California study found that more than 1/3 (38%) of the chemical additives used in San Joaquin Valley oil and gas fields that provide produced water for food crop irrigation, livestock watering, and groundwater recharging "were not able to be sufficiently identified for preliminary hazard evaluation, largely due to the withholding of information under proprietary claims."182 Of the chemicals that could be identified, researchers found that 43% of them "can be classified as potential chemicals of concern from human health and/or environmental perspectives and require a more thorough investigation."183 181 While most states with oil and gas production now have rules requiring disclosure of chemicals used in fracking, those rules often contain exclusions for "confidential business information" (CBI), which can be used to shield the identities of chemicals that are considered trade secrets. The U.S. Environmental Protection Agency (EPA) examined more than 39,000 chemical disclosure forms submitted to FracFocus from January 1, 2011, to February 28, 2013; it found that more than 70 percent of the forms listed at least one chemical as CBI and that 11 percent of all chemicals were claimed as such. See NRDC, Fracking 101, supra. 182 Exhibit 51, Seth B.C. Shonkoff, William T. Stringfellow, and Jeremy K. Domen. Technical Report: Hazard Assessment of Chemical Additives Used in Oil Fields that Reuse Produced Water for Agricultural Irrigation, Livestock Watering, and Groundwater Recharge in the San Joaquin Valley of California: Preliminary Results. (September 2016). PSE Healthy Energy. Available at http://www.chc4you.com/wp-content/uploads/2017/01/PSE_Produced-Water_Ag_Disclosures_FINAL.pdf 183 Id.
Beasley	Allyson	Western Environmental Law Center	Water resources	BLM should also take into account impacts to specific aquifers and water resources in the Greater Chaco, and look to additional resources such as the Navajo Nation Aquifer Protection Plan180 in doing so. The need to take a hard look at water resources also underscores the need for BLM to engage in meaningful, ongoing consultation and meaningful involvement with frontline communities who know firsthand the risks and impacts to their water resources. 180 See Navajo Nation Environmental Protection Agency, Public Water Systems Supervision Program, "Aquifer Protection Program," http://www.navajopublicwater.org/APP.html

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Beasley	Allyson	Western Environmental Law Center	Water resources	Groundwater contamination from oil and gas operations in Greater Chaco must be fully analyzed by BLM. For example, based on the Denver Post account of the Windsor, Colorado spill, mentioned further below, the company responsible for that spill, PDC, reported two other spills near Greeley within weeks of the Windsor incident. Both spills contaminated groundwater, according to a state database of spills. A January 22, 2013 spill by PDC released 2,880 gallons of oil and covered 3,900 square feet, leaving groundwater contaminated with benzene at a concentration 128 times higher than the state limit along with toluene and xylene chemicals. About 17 percent of 2,078 oil and gas spills that companies reported in Colorado since January 2008 have contaminated groundwater. Fracking wastewater is one of the most common substances spilled.216 In New Mexico, too, dangerous spills or "releases" of oil, gas, and "produced water" are all too common. See infra at 122. BLM must take a hard look at risks and impacts related to spills and groundwater contamination, and consider reasonable alternatives and mitigation measures to minimize these risks. 216 See Exhibit 71, Bruce Finley, Water fouled with fracking chemicals spews near Windsor, THE DENVER POST (Feb. 14, 2013), available at: http://www.denverpost.com/ci_22586154/water-fouled-fracking-chemicals-spews-near-windsor#ixzz2zpeQUnhK
Not Provided	Not Provided	National Wildlife Federation, New Mexico Wildlife Federation, HECHO	Water resources	The Proposed Withdrawal will also help to protect water quality. As with air quality, existing development in the region has impacted water quality and fisheries. For example, flood events in 2013 and 2014 in the northern part of the San Juan Basin resulted in significant sedimentation deposits in the San Juan River, reducing water quality, degrading fish habitat, and impacting the local economy. The BLM has attributed the elevated sedimentation loads, in part, to disturbances resulting from oil and gas development in the region.12The CCNHP and surrounding areas are vulnerable to similar kinds of erosion, flooding, and water quality impacts. As our climate continues to change, extreme weather events-dry spells followed by heavy flooding-will make land protection like the Proposed Withdrawal even more important. 12 Bureau of Land Management, Environmental Assessment River and Floodplain Improvements Project; San Juan River, Simon Canyon Area, at 18 (Sep. 2017).
Pinto	Kendra	N/A	Water resources	Communities such as Lybrook and Twin Pines depend on groundwater for a multitude of reasons such as daily use and agriculture. For an area that has an average annual rainfall of around 8 inches, it is quite clear that drinking water needs to remain a major concern for all major projects brought into our community that will potentially use local, fresh water. If an industry has the ability to bring in millions of dollars worth of equipment to drill shale thousands of feet below the surface, the industry should also put plans into place to monitor the air and water it is using and/or influencing and/or conducting industrial activity nearby.
Alexander	John	Dugan Production Corp.	Socioeconomic and environmental justice	Some of our leases are Navajo Allotments. The allottees may receive money from our operated leases that is important to their living standard. We want to continue to good neighbors to individuals in our area of operation. Ten miles is too large of a buffer based on geology and operational considerations.
Beasley	Allyson	Western Environmental Law Center	Socioeconomic and environmental justice	BLM must also adhere to the "process" requirements of environmental justice-fair treatment and meaningful involvement. If BLM ignores or excludes the very people and communities who are most affected by its leasing decisions, BLM is not only denying them fair treatment and meaningful involvement in decision-making--and, in the case of indigenous peoples and Tribes, abrogating the right to self-determination and free prior and informed consent320--but also depriving itself, and the general public, of invaluable knowledge and expertise that would enable better-informed and more transparent decision-making. "Better decisions" are indeed a fundamental goal of NEPA, and they require extensive, meaningful public involvement throughout an agency's decision-making process-not just "input" on pre- determined agendas.321 Indeed, as courts have agreed, "environmental justice is not merely a box to be checked." Friends of Buckingham, 947 F.3d at 92. 320 See supra Note 7 321 See 40 C.F.R. § 1500.1(c).
Beasley	Allyson	Western Environmental Law Center	Socioeconomic and environmental justice	BLM must also take a hard look at environmental justice-not just in relation to health, but also in its own right. As defined by the U.S. Environmental Protection Agency, "environmental justice" means "the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, in the development, implementation, and enforcement of environmental laws, regulations, and policies."314 Executive Order 12898 (EO 12898) requires each Federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."315 Even more recently, President Biden's January 27, 2021 "Executive Order on Tackling the Climate Crisis at Home and Abroad" (EO 14008) explicitly recognizes the inexorable links among climate, health, and environmental justice (which includes social and economic justice), and the corresponding need to address all of them in concert, with a whole-of-government approach.316 314 See U.S. Environmental Protection Agency, Environmental Justice, www.epa.gov/environmentaljustice . 315 Exec. Order No. 12,898, 59 Fed. Reg. 32 (Feb. 11, 1994), available at: https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf . 316 See Executive Order 14008, 86 Fed. Reg. 7619-7633, Tackling the climate crisis at home and abroad (January 27, 2021), available at https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/ Section 201 (Policy), for example, recognizes the threat to public health posed by the climate crisis and the need to "deliver environmental justice in communities all across America." Another part of the EO is expressly dedicated to "Securing Environmental Justice and Spurring Economic Opportunity," and Section 219 expands on the language of EO 12898, directing agencies to make environmental justice part of their mission, to expressly include climate, cumulative impacts, and "accompanying economic challenges." Section 221 creates the "White House Environmental Justice Advisory Council" (WHEJAC), which has since submitted draft recommendations to CEQ on an environmental justice screening tool and on updates to EO 12898.
Beasley	Allyson	Western Environmental Law Center	Socioeconomic and environmental justice	BLM must also take a hard look at the inexorable relationship between health and environmental justice. Executive Order 12898 ("EO 12898") on environmental justice requires each federal agency to make the achievement of "environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low- income populations."265 EO 12898, Section 1-101 (emphasis added). It is difficult to see how BLM can possibly analyze, let alone take NEPA's requisite hard look at, environmental justice impacts without analyzing health and safety impacts, particularly cumulative and disproportionate risks and impacts. 265 Executive Order 12898, 59 Fed. Reg. 7629 (Feb. 11, 1994) Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, available at https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf .
Beasley	Allyson	Western Environmental Law Center	Socioeconomic and environmental justice	The inequities at which BLM must take a hard look in an environmental justice analysis are not incidental, nor are they biologically determined-they are structural, systemic, and part of an unjust historical and ongoing pattern and practice of environmental racism, settler colonialism, and treatment of communities in the leasing areas as energy sacrifice zones. And, as discussed throughout these comments, there are several other health risks and impacts BLM should also analyze in the context of health and environmental justice, particularly in light of social and structural factors that affect health. BLM must engage in a thorough analysis of these and other inequities that NEPA requires, apply this analysis to its decision-making, and articulate a "rational connection between the facts found and the choices made" in coming to its ultimate conclusions in light of that analysis. Motor Vehicle Mfr. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43, 52 (1983). In conducting this analysis, BLM can and should synthesize existing local health, socioeconomic, and other data--for example, county health statistics and reports, locally-conducted health impact assessments,267 where available, or mapping of pollution exposure risks and demographic data through tools like U.S. EPA's "EJ Screen"268--and the best available science, including but not limited to the peer-reviewed studies and other sources mentioned in these comments. 267 Health Impact Assessment, or HIA, is a process that helps evaluate the potential health effects of a plan, project, or policy before it is built or implemented. HIA brings potential positive and negative public health impacts and considerations to the decision-making process for plans, projects, and policies that fall outside traditional public health arenas, such as transportation and land use. An HIA provides practical recommendations to increase positive health effects and minimize negative health effects." Centers for Disease Control and Prevention (CDC), "Health Impact Assessment" (Sept. 19, 2016), https://www.cdc.gov/healthypplaces/hia.htm . 268 See https://www.epa.gov/ejscreen .
Beasley	Allyson	Western Environmental Law Center	Socioeconomic and environmental justice	BLM Must Ensure Just Treatment and Meaningful Involvement, Particularly with Frontline and Indigenous People and Communities, Ensure Meaningful Tribal Consultation, and Adhere to the Principles of Free Prior and Informed Consent, in the Proposed Withdrawal Process and All Aspects of the Honoring Chaco Process
Beasley	Allyson	Western Environmental Law Center	Socioeconomic and environmental justice	Take a hard look at environmental justice impacts, and also ensure "just treatment and meaningful involvement"15 and adhere to the principles of Free Prior and Informed Consent 16 throughout the process for the proposed withdrawal, the Honoring Chaco Initiative, and all of BLM's planning, leasing, and permitting decisions. 15 See supra Note 5 16 See supra Note 7
Beasley	Allyson	Western Environmental Law Center	Socioeconomic and environmental justice	The proposed withdrawal and the broader Honoring Chaco process present an opportunity for BLM to engage in thorough analysis, disclosure, and mitigation of the impacts of fracking, including cumulative impacts, across the Greater Chaco landscape, and to abide by the principles of just treatment and meaningful involvement and Free Prior and Informed Consent, centering frontline and Indigenous people and communities at every step. They are also an opportunity for the Biden Administration to act on its purported commitments to environmental justice,10 climate justice,11 and Tribal consultation.12 A just and equitable process that goes beyond "checking the box" on minimum legally-required environmental justice, public participation, and consultation is not only necessary in its own right, but also essential to the informed decision-making at the heart of NEPA,13 and to just and equitable outcomes that eliminate or mitigate adverse risks and impacts to the Greater Chaco, its people and communities, and the climate. Through these processes, BLM can and should take meaningful steps towards breaking a long-standing pattern of colonization and resource exploitation in the Greater Chaco region that irreparably harms the health and well-being-- and economic, social and cultural fabric--of people and communities, desecrates the interconnected land, air, water, and ecosystems, and exacerbates the global climate crisis. 10 See, e.g., Executive Order 14008 on Tackling the Climate Crisis at Home and Abroad, in particular Sections 219- 223 related to environmental justice, available at https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/ ; See also "The path to achieving Justice40," https://www.whitehouse.gov/omb/briefing-room/2021/07/20/the-path-to-achieving-justice40/ ; See also https://www.epa.gov/environmentaljustice/white-house-environmental-justice-advisory-council 11 Id. See also https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5 12 See, e.g., Executive Order 13175, Consultation and Coordination With Indian Tribal Governments, available at https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/26/memorandum-on-tribal-consultation-and-strengthening-nation-to-nation-relationships/ 13 See, e.g., W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt., CV16-21-GF-BMM, 2018 WL 1475470, at *16 (D. Mont. Mar. 26, 2018). (citing California v. Block, 690 F.2d 753, 761 (9th Cir. 1982)) "Without all the relevant information, a NEPA analysis cannot 'foster informed decision-making.'"
Beasley	Allyson	Western Environmental Law Center	Socioeconomic and environmental justice	According to EPA Guidance on environmental justice in the NEPA process, an environmental justice analysis must also include "the cultural values that the community and/or Indian Tribe may place on a natural resource at risk," and it is "essential" for the "NEPA analyst to consider the cumulative impacts from the perspective of these specific resources or ecosystems which are vital to the communities of interest."318 BLM must incorporate Tribes' and frontline community members' knowledge of, and concerns about, such cultural values and cumulative impacts in its NEPA analyses for the proposed withdrawal, in parallel processes for updating the outdated Farmington and Rio Puerco RMPs, and throughout the Honoring Chaco process. It would be arbitrary and capricious, a failure to "articulate a rational connection between the facts found and the choices made," Motor Vehicle Mfr. Ass'n, 463 U.S. at 43, for BLM to acknowledge that there are "environmental justice populations" in the Greater Chaco who could experience adverse and disproportionate risks or impacts,319 without actually analyzing the risks and impacts of its decisions on these populations, or listening to those in frontline communities about their firsthand experiences with those risks and impacts-- let alone taking them into account in its decision-making. "Where BLM has acknowledged increased risk, it cannot then conclude impacts are not significant absent a comprehensive analysis." State of California, 472 F. Supp. 3d at 622. 318 Exhibit 136, 1998 EPA NEPA Final Guidance https://www.epa.gov/sites/production/files/2015-02/documents/ej_guidance_nepa_epa0498.pdf . 319 See, e.g., Draft Farmington RMPA/EIS. Vol. I at 3-220, listing several Navajo Nation chapters (including Counselor, Nageezi, Ojo Encino, Pueblo Pintado, Sanostee, Torreon/Star Lake, and Whitehorse Lake) as those which "qualify as low-income and minority populations based on CEQ guidance."
Beasley	Allyson	Western Environmental Law Center	Socioeconomic and environmental justice	Environmental Justice is a "relevant factor" for which federal agencies must take a hard look under NEPA, made reviewable under the APA's arbitrary and capricious standard. See Latin Ams. for Social & Econ. Dev. v. Fed. Highway Admin., 756 F.3d 447, 465 (6th Cir. 2014); Coliseum Square Ass'n, Inc. v. Jackson, 465 F.3d 215, 232 (5th Cir. 2006); Cmty.s. Against Runway Expansion, Inc. v. FAA, 355 F.3d 678, 689 (D.C. Cir. 2004); Standing Rock Sioux Tribe v. U.S. Army Corps of Engineers, 440 F. Supp. 3d 1, 9 (D. D.C. 2020), vacated by, in part, affirmed by, in part, Standing Rock Sioux Tribe v. United States Army Corp of Eng'rs, 985 F.3d 1032 (D.C. Cir. 2021); Friends of Buckingham v. State Air Pollution Control Bd., 947 F.3d 68, 87 (4th Cir. 2020). While we appreciate that BLM has at least included subsections discussing environmental justice in its NEPA documentation for the proposed lease sales, they fall far short of NEPA's requirements for a "hard look" at environmental justice.
Beasley	Allyson	Western Environmental Law Center	Socioeconomic and environmental justice	We also recommend that BLM abide by the following frameworks and guiding principles, and refer to the following additional recommendations with respect to environmental justice, meaningful involvement, meaningful consultation, and engagement with frontline communities: - The Jemez Principles for Democratic Organizing 21 - Free Prior and Informed Consent (FPIC) 22 - The White House Environmental Justice Advisory Council (WHEJAC) Recommendations 23 - Executive Order 12898 on Environmental Justice 24 - Executive Order 14008, Tackling the Climate Crisis at Home and Abroad--in particular, Sections 219-223 related to environmental justice 25 - Executive Order 13175, Consultation and Coordination With Indian Tribal Governments 26 - Resource list shared with the Bureau of Land Management to inform it/the Department of Interior's Honoring Greater Chaco process, guided by the principles of environmental justice and Free, Prior and Informed Consent as discussed here 27 - UCLA School of Law Tribal Development Legal Development Clinic for Pueblo Action Alliance White Paper: Sacred Place Protections, Limitations, and Re-Imagination for Chaco Canyon (outlining, among other things, principles of FPIC, consultation requirements under the National Historic Preservation Act, and principles of federal- tribal co-management and co-stewardship) 28 21 See https://www.ejnet.org/ej/jemez.pdf 22 See UNDRIP, supra Note 7 23 See WHEJAC Recommendations, supra Note 5 24 Available at https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf 25 Available at https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/ 26 Available at https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/26/memorandum-on-tribal-consultation-and-strengthening-nation-to-nation-relationships/ 27 Available at https://docs.google.com/document/d/1tbAgdQHvNRR3ZmhMMTxLT5Wcn8ONRe-32b5lxN5reZs/edit 28 Attached as Exhibit 6
Benally	Aw	N/A	Socioeconomic and environmental justice	Perhaps my question/concerns expressed herein may seem elementary, but they are serious to me, allottee who like others have endured uncertainties in relation to the exact duration of oil and gas production on our allotted lands. I've been receiving IIM royalties as agreed by the companies with whom I have notarized consent. And the compensation has supplemented my personal retirement incomes. Similarly, I'm certain this source is a primary means of support to many families as well.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Benally	Aw	N/A	Socioeconomic and environmental justice	It is revenue collected from tourism at Chaco Canyon, so where do these revenues go? Who uses them? How are they used? Or any Navajo chapters receiving their share? Chaco Canyon is in eastern Navajo agency, so is our agency receiving any of these revenues? if not, what is being done by the four interior departments to advocate these revenues go to eastern Navajo agency.
Chavez	Erin	N/A	Socioeconomic and environmental justice	The was no consultation with the land users about the land withdrawal. This will negativity impact the allottees and Navajos from the finical side. Navajo families depend on oil and gas revenues for Haise family living for food and clothing for their children.
Chen	Kuan	N/A	Socioeconomic and environmental justice	In the era of Russian aggression and the reduction in global oil and gas supplies we need to be lowering oil and gas prices by increasing oil and gas production. This is beneficial to local New Mexicans and US citizens who are suffering from record high gas prices. This also aids our European partners and Ukrainian compatriots. The Chaco Cultural National Historical Park would still be protected and safe with oil and gas development in the surrounding area. Opening the surrounding Federal lands to oil and gas development is a win-win for the economic and security interests of New Mexico, the United States, and the free world.
Eaton	Marietta	N/A	Socioeconomic and environmental justice	Although development provides jobs and income for local communities BLM needs to weigh that against resource protection needs. What is the FFO doing regarding environmental justice and the analysis of effects of development on tribes as well as individual's homes and concerns about increased access and the effects of development, and their overall cultural values?
FORM 11	Master	N/A	Socioeconomic and environmental justice	BLM should ensure environmental justice and continue to work with community stakeholders to honor Greater Chaco, extending beyond the 10-mile withdrawal buffer. Just transition efforts and community infrastructure investments must be funded to reconcile the impacts of energy sacrifice zones and environmental racism.
Garcia	Raena	Friends of the Earth	Socioeconomic and environmental justice	Ensure community protections be put in place to assure quality of life beyond the 10-mile buffer. Just-transition efforts and community infrastructure investments must be funded to reconcile the impacts of sacrifice zones and environmental racism. The oil and gas industry must be held accountable for the impacts of over 40,000 existing oil and gas wells in the region, and the legacy of pollution, including abandoned, orphaned, and non-producing wells, must be fully remediated.
Glasenapp	Logan	New Mexico Wild	Socioeconomic and environmental justice	A study by Johns Hopkins University, which examined 35,000 medical records of people with asthma in Pennsylvania, found that people who live near a higher number of, or larger, active gas wells were 1.5 to 4 times more likely to suffer from asthma attacks than those living farther away, with the closest groups having the highest risk. ⁶⁴ These asthma-related impacts are of particular concern in the communities adjacent to the proposed withdrawal and the Farmington Field Office. In San Juan and Rio Arriba Counties, child asthma hospitalizations exceed the New Mexico state average. ⁶⁵ The New Mexico Department of Health has noted that low-income populations and "environmental justice" populations face not only disproportionate asthma risks, but also significant difficulty managing their asthma, in part due to lack of access to health care. Rio Arriba and McKinley Counties have some of the highest rates of asthma emergency department visits in Northern New Mexico, also higher than the state average. 64 Rasmussen, Sara G. et al., Association Between Unconventional Natural Gas Development in the Marcellus Shale and Asthma Exacerbations, 176 JAMA Internal Medicine 1334 (2016). 65 New Mexico Dept. of Health, The Burden of Asthma in New Mexico: 2014 Epidemiology Report (Jan. 2014), at 41, available at https://nmhealth.org/data/view/environment/54 . In 2017, over 40% of San Juan county residents stated that they have difficulty accessing health care often due to geographic constraints but also for economic reasons. ⁶⁶ Cumulative health effects result throughout the course of life of a person suffering from air pollution related asthma: children with asthma are much more likely to miss school, hurting their educational prospects as well as their health (with some adverse health effects enduring into adulthood), and resulting in significant funding losses for local schools. ⁶⁷ 66 2017 Community Health Needs Assessment Report San Juan County, New Mexico. 67 See Attendance Works, Mapping the Early Attendance Gap (2017). Available at http://www.attendanceworks.org/wp-content/uploads/2017/05/Mapping-the-Early-Attendance-Gap_Final-4.pdf The agency should consider this scientific information in full and acknowledge that oil and gas development and resulting climate change impacts will have direct, indirect, and cumulative impacts to the health and welfare of surrounding communities. In the planning area, these impacts can also have a differential adverse impact on low-income populations or communities of color, creating environmental justice concerns that can and should be addressed in the plan and in any subsequent approved activities. Supporting a 20-year withdrawal for the proposed area would significantly benefit community health and wellbeing.
Glasenapp	Logan	New Mexico Wild	Socioeconomic and environmental justice	In addition to health impacts, oil and gas development can have socioeconomic impacts on local communities. For instance, the influx of construction and operations workers associated with oil and gas development and ancillary facilities in communities with low-income and Indigenous populations could lead to the undermining of local community social structures and, consequently, could lead to a range of changes in social and community life. BLM should evaluate socioeconomic impacts and include those in considering the costs and benefits of approving the proposed withdrawal. A study by Headwaters Economics recommends what data to track along with ideas for how to approach and develop monitoring protocols to help planners, local leaders, industry, and community members understand and respond to the social and economic impacts of a high intensity industrial activity like hydraulic fracturing. ⁶⁸ 68 See https://headwaterseconomics.org/energy/oil-gas/energy-monitoring-practices/ . The Headwaters study recommends that the following five areas be monitored to more fully assess the impact of oil and gas development on communities: 1. Population growth & worker residency patterns: an influx of temporary and transient workers may create an inflated demand on social services, housing, and infrastructure, straining the capacity of small communities to meet that need. 2. Employment, personal income, and local business effects: monitoring this data can help states and communities understand which types of businesses may be most vulnerable to energy-related economic impacts and guide how and where to direct support before, during, and after boom periods. 3. Cost of living and housing: the average wages in a community experiencing an energy boom may not rise concurrently with the increased energy development. An increased price of living may adversely impact those whose wages do not increase with the rise of energy activity. 4. Service, infrastructure, capacity, and revenue: a region's tax base may increase with a growth in energy activity, but the appropriation of those funds to address environmental and health impacts may be difficult. A boom in the energy sector of a community may result in an increased need for police, fire protection, roads, water treatment, landfills, and other government activities, all of which can be costly. 5. Quality of life and other local concerns: as reflected in multiple community accounts of health concerns, citizen science health assessment studies, numerous complaints filed to the Energy, Minerals, and Natural Resources Department Oil Conservation Division regarding leaks and emissions from oil and gas sites in the Greater Chaco Region, the rapid growth of energy development in the area has resulted in measurable detriments to public and environmental health. We urge BLM to incorporate into its approach for the proposed withdrawal a thorough assessment of the socioeconomic impacts of the projected oil and gas development in the planning area and to develop mitigation measures to address those impacts.
Goetz	Rusty	N/A	Socioeconomic and environmental justice	Please consider the effects on the various stakeholders working and living in the area.
Howard	Carol	N/A	Socioeconomic and environmental justice	I and others depend on the resources on out llm resource of income for our livelihood for years.
Kelley	Klara	N/A	Socioeconomic and environmental justice	To serve the principle of environmental justice, the oil and gas industry should be required to shut down, reclaim the land, and pay the Allottees compensation for losing their income for the Greater Good. Payments to land users for withholding land from production are not new: for example, farmers have been paid for fallowing crop land in the interest of restoring the soil or supporting commodity prices. The difference here would be that rather than the US government (aka Taxpayers), the oil and gas producers themselves would make the payments from their many decades of enormous profiteering.
Miller	William	N/A	Socioeconomic and environmental justice	Chaco is a world heritage site, which must not be exploited for financial gain. The Dine'/Navajo people must be offered recompense for their loss of economic opportunity from this site.
Montoya Hammersley	Mia	New Mexico Environmental Law Center	Socioeconomic and environmental justice	While the Law Center supports the Department of Interior's "Honoring Chaco Initiative" and the proposed administrative withdrawal of over 350,000 acres of public land from future mineral leasing, further action is needed to protect the Greater Chaco cultural landscape and to meaningfully involve impacted communities and Tribal Nations. As the country's second-largest oil producer, New Mexico has become known as an energy sacrifice zone. Tribal Nations, communities of color, and low income communities are disproportionately impacted by the effects of energy production and climate change, from exposure to toxic pollutants to impacts from the fires currently raging throughout the state. Avoiding catastrophic global warming and safeguarding community health requires ending new investments in fossil fuels
Montoya Hammersley	Mia	New Mexico Environmental Law Center	Socioeconomic and environmental justice	Community protections must be put in place to assure quality of life beyond the 10-mile buffer. Just transition efforts and community infrastructure investments must be funded to reconcile the impacts of sacrifice zones and environmental racism. The oil and gas industry must be held accountable for the impacts of over 40,000 existing oil and gas wells in the region, and the legacy of pollution, including abandoned, orphaned, and non-producing wells must be addressed and fully remediated.
N/A	Juliana	Carbondale Community School	Socioeconomic and environmental justice	There is also tourists to take into account, the tourist help gain money and support for this extraordinary place and if there is noises and damage from drilling, it will expel future tourists.
Nez	Jonathan	The Navajo Nation	Socioeconomic and environmental justice	At the February meeting, an elder mentioned that her family's hogan near Chaco Canyon was damaged. In addition to taking away their economic means, harm comes to Navajo Allottees when they are not properly notified due to lack of adequate interpretation. It seems like only the Navajo people living in this Chaco Withdrawal Area are being targeted or sacrificed. There is no similar effort being performed by the federal government to other Chacoan sites like the Aztec Ruins, Mesa Verde, etc.
Nez	Jonathan	The Navajo Nation	Socioeconomic and environmental justice	The Chaco Withdrawal Area project will harm Navajo Allottees. We are told that the "withdrawal applies only to federally owned minerals and does not preclude Navajo allottees and other landowners from leasing their minerals for development." That may be so, but indirectly this withdrawal will impact Navajo Allottees. Although the moratorium affects only federally-owned minerals, Allottees will be impacted in areas where allotted lands are not contiguously aligned or grouped in such a way that allows a company to extract minerals through horizontal drilling. This will result in minerals remaining stranded, possibly stagnating future development. The Allottees depend on income from their Indian Allotments for sustenance and to make their living out here. Because this area is rural and low income, every means of income is needed for the people to survive out here. The Navajo people living out here pay the highest price for food, utilities, gasoline, etc. Granted, the federal officials may indicate that this does not extend to Indian Allotments. However, companies will not go into areas hampered or closed off by the federal government. Additionally, spacing regulations govern how many wells can be drilled in a particular area. Spacing is a conservation measure that identifies the location and number of wells that can be drilled to drain a reservoir. Typically, only one gas well can sit on a 640-acre area, while one oil well can sit on 160 acres. With a moratorium on federal leasing, the space that an extraction company has to drill is limited. Drainage is another disincentive for extractive companies to drill on allotted lands within the proposed withdrawal area. Lessees operating on federal or Indian land must compensate lessors for drainage of their oil and gas mineral resources. Thus, in the proposed withdrawal area any oil and gas production from allotted lands resulting in drainage from neighboring federal lands will incur compensatory royalties for such drainage. It is possible that there would not be sufficient land available for development without encountering this scenario. This project is going to affect oil and gas development on Indian Allotments depended upon by the Allottees and their families. Interestingly, President Biden, just recently, wanted to resume oil and gas leasing on public lands but not these lands. Why not the public lands which are being considered today?
Not Provided	Joe	N/A	Socioeconomic and environmental justice	Do not withdraw public lands from mineral leases. These leases provide jobs for the local community. We urgently need more economic development in this area,which mining and mineral leases can provide.
Not Provided	Not Provided	N/A	Socioeconomic and environmental justice	Concerning oil and gas production at the Chaco Canyon National Monument, it is very important that we as a country are energy independent. Our excellent oil and gas drillers can safely drill in the Chaco area with minimum environmental and archeological impact. The choice to not produce our own energy leaves us dependent on bad actors who are much more harmful than the minimum disturbance caused by our own drillers. Additionally, our own people need the jobs.
Parks	Tripp	Western Energy Alliance	Socioeconomic and environmental justice	BLM has the opportunity with a 5-mile withdrawal to satisfy the interests of all culturally affiliated tribes without disadvantaging the local communities and perpetrating environmental injustice. An overly expansive buffer zone poses a significant risk to the local economy and the livelihoods of the thousands of allottees in the area. Because of the checkerboard pattern of lands in the area around CCNHP, where allottee lands are often surrounded by BLM lands, it is impossible to avoid the federal mineral estate when attempting to access pockets of allottee minerals via horizontal drilling. As a result, any limitations on accessing federal minerals will necessarily impair allottee and tribal lands as well, as demonstrated in the map attached to these comments which compares the impacts of potential 5- and 10-mile buffers around CCNHP.
Pinto	Kendra	Earthworks	Socioeconomic and environmental justice	As a resident of New Mexico and the Greater Chaco area, I am uncomfortable to see the state of New Mexico prioritize oil and gas infrastructure over the health and safety of people living nearby. The public services available to the industry are not equally available to those living among the activity. It is not uncommon for the oil and gas industry to receive electrical lines to well sites within a very short amount of time, yet there is no rush for community members with no electricity and have been living in the area long before the well was drilled. As water supply wells are being drilled, it is vital that the federal government prioritizes the residential needs of water for local communities over the oil and gas industry. Public issues related to safety and health issues should be addressed by the BLM. Even now as I live and breathe within the Chaco area, I am occasionally met with odors of gas while recreating.
Pinto	Kendra	Earthworks	Socioeconomic and environmental justice	BLM has failed to put community protections in place to assure quality of life beyond the 10-mile buffer. Just Transition efforts and community infrastructure investments must be funded to reconcile impacts of sacrifice zones and environmental racism. The oil and gas industry must be held accountable for the impacts of 40,000+ existing oil and gas wells in the region, and must address the legacy of pollution, including abandoned, orphaned, and non-producing wells, including full remediation. ²² Please see these videos for examples of oil and gas pollution in the greater Chaco area: SG Interests - Federal 21-6-28 SWD #33, Sandoval County, NM (April 2022) at https://www.youtube.com/watch?v=dJ62BDaisz8 , SG Interests - Federal 21-6-29 #2 at https://www.youtube.com/watch?v=qWiHnSb012c , and Dugan Production Corp - Morrison SWD #2, San Juan County, NM (April 2022) at https://www.youtube.com/watch?v=r2JiHVLBKJw .

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Pinto	Kendra	N/A	Socioeconomic and environmental justice	The public services available to the industry are not equally available to those living among the activity. As water supply wells are being drilled, it is vital that the federal government prioritizes the residential needs of water for local communities over the oil and gas industry use.
Platero	Leta	N/A	Socioeconomic and environmental justice	We allottees depend on our leases montly, our gas and gase resources for now and our future for us and our children, grandchildren, etc.
Smitherman	John	New Mexico Oil & Gas Association	Socioeconomic and environmental justice	Preventing access to these valuable resources will also have a negative impact on others in the region. The entire San Juan Basin will suffer negative economic impact from a reduction in oil and gas development in the CNHP area. Reduced development will mean that there will be less oil and gas revenue and less economic activity for local contractors (including those that are Native American owned), resulting in less local revenue, which will impact all citizens in the four corners area, including member from the other local Tribes. This will result in serious impacts to local taxes for schools, hospitals, roads, and infrastructure. All area businesses will suffer from loss of revenue. By withdrawing unleased federal minerals and Rights of Way necessary to access Navajo allotments, oil and gas operators will be forced to abandon their drilling plans in the southwestern portion of the Mancos/Gallup oil play, disappointing allottee minerals owners who need the additional income.
Trujillo	Arvin	Four Corners Economic Development, Inc.	Socioeconomic and environmental justice	Many allottee mineral owners depend on royalty income for survival! Due to the "checkerboard" nature of the property ownership status surrounding Chaco Cultural National Historic Park, a 10-mile perimeter exclusionary zone effectively removes and/or strands tens of thousands of acres from productive use and future royalty generation. Unless economic quantities of acreage can be consolidated under a single larger-acreage lease position, oil and gas production companies will not purchase leases and pursue development.
Trujillo	Arvin	Four Corners Economic Development, Inc.	Socioeconomic and environmental justice	Mineral resource development on public lands is the single largest "game changer" for the economic well-being of the Navajo Nation and the citizens of San Juan County. Denying the economic development potential of mineral resources on Navajo allotted land and Bureau of Land Management land would be devastating to Navajo allottees and their families and to the many Navajo employees working in the oil and natural gas production industry. The median annual income of a Navajo allottee is approximately \$20,000; the average annual royalty revenue from oil and gas production is an additional \$28,000. To further illustrate the impact to families, from documentation supporting NABUA-05-20, within the proposed ten-mile buffer there are currently 53 leased allotments generating an average of \$6.2 million a year in royalties for the allottees.
Trujillo	Arvin	Four Corners Economic Development, Inc.	Socioeconomic and environmental justice	Compounding the negative economic consequences, are limited substitutional employment opportunities on the Navajo Nation and, certainly, employment that yields equivalent replacement income for the multiple thousand families supported by royalties distributed by the Federal Indian Mineral's Office. 4CED notes that proposals under consideration contemplate no discussion of compensation for the "taking" of future income by denying the economic possibilities of responsible oil and gas development.
Tsosie	Kirena	Southwest Research and Information Center	Socioeconomic and environmental justice	In order to ensure the protection of the Greater Chaco region and meaningful involvement of community there needs to be landscape-level safeguards with a focus on environmental justice. The BLM's obligations as stewards requires redefining land management by incorporating community values, needs, and knowledge that might provide greater protection for natural and cultural resources. The BLM can no longer neglect its responsibilities and must implement effective laws and regulations to protect the Greater Chaco region and the people who live there (FrackOffChaco, 2022). We must learn to use Indigenous and western science by acknowledging the importance of both as equal partners in land stewardship that will allow for natural resource development without harmful impacts to the environment or local community. New Mexico can lead the nation by example through the prioritization of community health and safety while protecting our environment, families, and future. FrackOffChaco. (Jan. 6th 2022). Greater Chaco Coalition Demands More Than Piece Meal Protection in Response to 10-Mile Buffer. Frack
Valdez	Jessie	N/A	Socioeconomic and environmental justice	Chaco Area withdrawal will sure limit economic impact on use allottees. We rely on revenue from oil and gas leasing. Chaco area is already fences in why go beyond that?
Winchester	Jim	Independent Petroleum Association of New Mexico	Socioeconomic and environmental justice	Navajo Allottees, as individual ancestral mineral owners who hold title to lands within the land withdrawal, suffer significant economic injustice at the hands of federal government overreach if the withdrawal proceeds as proposed. The primary reason is the denial of their ability to develop their minerals if surrounding federal lands are off-limits to development. If public/BLM lands are withdrawn, mineral owners have no way to build roads or pipelines to reach the allotments for development. This would leave thousands of stranded parcels. Royalty income to the allottees from oil and gas development is an important source of revenue. Any federal land withdrawal will conflict with BIA's mission "to ensure that Indian mineral owners desiring to have their resources developed are assured that they will be developed in a manner that maximizes their best economic interests and minimizes any adverse environmental impacts or cultural impacts resulting from such development" as required 25 CFR Part 211. The Navajo Nation Council and the Navajo Allottees have repeatedly urged the Department of the Interior (DOI) to consider their officially adopted compromise five-mile "no federal leasing buffer" to protect the ability of the Allottees to develop their fee minerals. This position was articulated on overwhelming manner at several public comment sessions held in Farmington in the past few months. The position of these two stakeholders of direct impact is consistent with the DIO's responsibility to the Navajo Nation and to the Navajo Allottees. The Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM) regulations and guidance also require adherence to fiduciary obligations. The BIA regulations mandate the development of mineral resources in a manner that maximizes the economic interests of Indian mineral owners through 25 CFR Parts 211, 212 and 225. BLM's guidance states a fiduciary obligation to manage allottee minerals as trust assets per the BLM H-1780 and MS-1780.
Beasley	Allyson	Western Environmental Law Center	Social cost of carbon	BLM has a legal obligation under NEPA to take a hard look at the impacts of its planning, leasing, and permitting decisions in the context of the current climate crisis. Available tools, such as the social cost of greenhouse gases and carbon budgeting, would contribute to informed decision-making, and BLM should use these tools in its assessment of the impacts of its decisions and in considering and selecting among alternatives.
Beasley	Allyson	Western Environmental Law Center	Social cost of carbon	BLM Must Analyze and Disclose to the Public the Significance of its Actions Using Available Tools, such as the Social Cost of Greenhouse Gases and Global Carbon Budgeting While BLM must include quantitative estimates of the total GHG emissions resulting from its actions, including oil and gas planning and management decisions and leasing and development approvals occurring despite the proposed withdrawal, it must also include an assessment of ecological, economic, and social impacts of those emissions, including an assessment of their significance. See 40 C.F.R. §§ 1508.8(b); 1502.16(a)-(b). The inclusion of this information in an agency's NEPA analyses allows members of the public and interested parties to evaluate this information, submit written comments where appropriate, and spur further analysis as needed. W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt., CV16-21-GF-BMM, 2018 WL 1475470, at *16 (D. Mont. Mar. 26, 2018). Without all the relevant information, a NEPA analysis cannot "foster informed decision-making." Id. (citing California v. Block, 690 F.2d 753, 761 (9th Cir. 1982)). BLM must analyze and disclose to the public the significance and severity of emissions, so that decisionmakers and the public can determine whether and how those emissions should influence the choice among alternatives. See Robertson v. Methow Valley Citizens Council, 490 U.S. at 351-52 (recognizing that EIS must discuss "adverse environmental effects which cannot be avoided[,]" which is necessary to "properly evaluate the severity of the adverse effects").
Beasley	Allyson	Western Environmental Law Center	Social cost of carbon	BLM must use available tools to analyze and disclose to the public the significance of greenhouse gas emissions resulting from its planning decisions and although the social cost of greenhouse gases protocols are not the only way to achieve this mandate, they would be useful here to properly place the proposed action in context and to consider and analyze all reasonable alternatives. Although the social cost of carbon protocol was originally designed for rulemaking it clearly has utility in the oil and gas planning, leasing, and development context. Indeed, the court in WildEarth Guardians v. Zinke agreed, noting that "the protocol may one day soon be a necessary component of NEPA analyses." No. 16-1724-RC at 50 n. 31. Even if NEPA does not require a cost benefit analysis in all cases, NEPA does require BLM to assess the significance of its actions, and the social cost of carbon remains one of the best tools available to analyze and disclose to the public the significance of GHG emissions. For example, disclosing that a lease sale will have \$100 million in climate impacts makes it an easily digestible figure for the public, as opposed to trying to minimize the impacts by presenting them as a very small percentage of total emissions.
Beasley	Allyson	Western Environmental Law Center	Social cost of carbon	While agencies are not required to use any specific protocols to determine the significance of emissions under NEPA, BLM must undertake a more robust discussion of GHG emissions. WildEarth Guardians, 368 F. Supp. 3d at 78. This is because an agency's failure to provide a discussion of the significance of impacts resulting from its decisions and associated climate implications deprives the public of important information on the cumulative GHG emissions and true climate implications of agency actions. See Or. Nat. Desert Ass'n v. U.S. Bureau of Land Mgmt., 625 F.3d 1092, 1099-1100 (9th Cir. 2010) ("[NEPA] require[es] agencies to take a 'hard look' at how the choices before them affect the environment, and then to place their data and conclusions before the public."). Accepted methods exist to quantify and analyze the significance of GHG emissions (through monetization), which BLM could use to evaluate the significance of those emissions and to balance consequences of emissions against benefits of a specific approval.88 These include the Social Costs of Greenhouse Gases and global carbon budgeting. 88 See e.g., Exhibit 25, Jayni Hein et al., NYU School of Law Inst. for Policy Integrity, Pipeline Approvals and Greenhouse Gas Emissions 5 (2019), available at: https://policyintegrity.org/publications/detail/pipeline-approvals-and-greenhouse-gas-emissions .
Beasley	Allyson	Western Environmental Law Center	Social cost of methane	In the absence of other tools, BLM should use the Social Costs of Greenhouse Gases to assist in analyzing and disclosing to the public the significance of the GHG emissions of its decisions when preparing NEPA analyses. Even if NEPA does not require a cost benefit analysis in all cases, NEPA does require BLM to assess the significance of its actions, and the Social Costs of Greenhouse Gases remain as some of the best tools available to analyze and disclose to the public the significance of GHG emissions. Critically, these protocols not only contextualize costs associated with climate change but can also be used as a proxy for understanding climate impacts and to compare alternatives. See 40 C.F.R. § 1502.22(a) (stating agency "shall" include all "information relevant to reasonably foreseeable significant adverse impacts [that] is essential to a reasoned choice among alternatives).
Beasley	Allyson	Western Environmental Law Center	Social cost of methane	Similarly, the Social Cost of Methane is another available tool that BLM could use in its NEPA analyses to analyze and disclose the significance of impacts of its decisions as required by 40 C.F.R. §§ 1508.8(b),1502.16(a)-(b). In August 2016, the IWG provided an update to the SCC technical support document,97 adopting a similar methodology for evaluating the climate impact of each additional ton of methane and nitrous oxide emissions.98 Similar to the SCC, the Social Cost of Methane provides a standard methodology that allows state and federal agencies to quantify the social benefits of reducing methane emissions. 97 IWG 2016 Report at 3. The August 2016 update added some clarifying information around uncertainties in the modeling that supports the social cost of carbon, id. at 2, but did not adjust the damages values (the costs) published in the 2015 update, id.; compare id. at 7 with Interagency Working Group on Social Cost of Greenhouse Gases (IWG), Technical Support Document: - Technical Update on the Social Cost of Carbon for Regulatory Impact Analysis - Under Executive Order 12866 1, 7 (2015). 98 Exhibit 30, Interagency Working Group on Social Cost of Greenhouse Gases (IWG), Addendum to Technical Support Document on Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866: Application of the Methodology to Estimate the Social Cost of Methane and the Social Cost of Nitrous Oxide 2-3 (2016), available at: https://www.epa.gov/sites/production/files/2016-12/documents/addendum_to_sc_ghg_tsd_august_2016.pdf .
Argust	Marcia	The Pew Charitable Trusts	Cultural resources	The area proposed for withdrawal lies within the Farmington Field Office (FFO) and encompasses the Bureau of Land Management (BLM)-managed lands that surround the Chaco National Historical Park and World Heritage Site (WHS). The Chaco Culture WHS includes the Aztec Ruins National Monument, managed by the National Park Service, as well as 39 Archaeological Protection Sites, known as "Outliers," as identified in the 1995 Chacoan Outliers Protection Act (PL 104-11), four of which are actively managed by BLM as Areas of Critical Environmental Concern. The Outliers are a part of a Chacoan network recognized as part of the WHS, including great houses, an elaborate road system, ceremonial kivas (underground rooms), and artifacts. These features comprise the Greater Chaco cultural landscape. Since the 1995 Outliers Act, significant new information has been uncovered regarding other Chacoan settlements in the region that are worthy of protection as candidate Outliers.
Bardos	Gyongyi	N/A	Cultural resources	Prohibit gas and oil leases near this singular irreplaceable cultural site. Petrochemical exploration would irreversibly and negatively impact the fragile and peaceful area. [SEE ATTACHMENTS ON CARA FOR PICS]
Beasley	Allyson	Western Environmental Law Center	Cultural resources	Air and light pollution, noise, and vehicle traffic from Mancos shale development authorized by BLM all have the potential to adversely affect the fundamental values of the Greater Chaco Landscape, including the Park and Outliers. BLM must analyze whether and to what extent the Park, World Heritage Site, Chaco Outliers, and the North Road will be impacted by Mancos shale development. Such a "landscape level" impacts analysis is required before BLM can authorize any further Mancos shale development.
Beasley	Allyson	Western Environmental Law Center	Cultural resources	BLM cannot defer this analysis until drilling permit approval, because that stage will be too late to adequately protect landscape-level historic properties located within the Greater Chaco Landscape. In New Mexico ex. rel. Richardson v. Bureau of Land Mgmt., 459 F. Supp. 2d 1102 (D.N.M. 2006), the court explicitly recognized that evaluating impacts to landscape-level historic properties cannot be put off until the APD stage: [Landscape-level cultural properties] may not be able to be adequately protected if the Section 106 consultation process is delayed until the APD stage, after land has already been leased for oil and gas development. BLM's argument focuses on historical sites covering relatively small areas, such as discrete archaeological sites. For such sites, mitigation of impacts can be accomplished simply by moving the proposed drill site to a different location on the lease parcel. For landscape-level [properties] that may or may not be located on the leased parcel itself, however, such movement may not be adequate mitigation. Id. at 1124-25. Given that the Park, World Heritage Site, Chaco Outliers, and the North Road are landscape-level historic properties, evaluation of impacts to these properties at the drilling stage comes too late to afford any substantive protection. New Mexico ex. rel. Richardson stands for the principle that BLM cannot defer historic property impacts analysis to the APD stage and limit it only to historic properties (or portions of landscape-level historic properties) present on particular proposed lease parcels.
Bernal	Julia	Sandia Pueblo	Cultural	Additionally, we support the tribal- led Ethnographic Study conducted by the Chaco Heritage Tribal Association. Those studies should inform any sort of process which pertains to protecting the cultural resources, natural resources, and integrity of the Chaco Culture National Historical Park, but also the greater boundaries outside of that park.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Black	Andrew	EarthKeepers360	Cultural resources	Centuries ago, Chaco Canyon was a ceremonial, agricultural and thriving economic center where Native people built magnificent great houses, astronomical observation sites, and ceremonial kivas. These areas continue to be places of prayer, healing and pilgrimage for various Pueblo and Tribal communities today. Over the years, excessive oil and gas drilling around Chaco Canyon has damaged air and water quality and caused immense harm to the health of children, families and local communities. The proposed withdrawal will ensure that we safeguard thousands of archeological and sacred sites and protect clean air and water for the surrounding communities for generations to come.
Cottrell	Sarah	State of New Mexico, Energy, Minerals and Natural Resources Department	Cultural resources	The CCNHP and the surrounding area is world-renowned for its cultural and archeological resources, including intact multi-story buildings that were used as the ancestral home to the native cultures that have called New Mexico home for a millennia. The Chacoan culture built hundreds of miles of roads to connect scattered villages and religious shrines, and many of these sites can still be seen on the ground ten centuries later. For example, there are twelve largely unprotected Chacoan great house communities with thousands of archeological sites within the proposed area of withdrawal.
Cowan	Emery	N/A	Cultural resources	Additionally, this area is home to a multitude of rare plants such as the Aztec gilia, Clover's Cactus, Mesa Verde Cactus, Savinski Blazing Star, and the Mancos Salt Plant that can easily be looked over and destroyed by oil and gas infrastructure. This is a chance to preserve the small undeveloped slice of this culturally and ecologically precious landscape and I strongly support whatever action is needed to accomplish those goals.
Cruz	Robyn	N/A	Cultural resources	I write to express my opinion that Chaco Canyon and its surrounding area must be preserved at all costs. This invaluable site is not only important historically to NM or even to the US but is in fact important to both the North and South American continents. There is archeological evidence of travel and trade the length of these continents with discover in the 1990s of cocoa in vessels found at Chaco and other evidence spanning the continents supports connection and superior building and agricultural activities between ancient people of these lands that we have yet to uncover and understand completely.
Delena	Breanna	Zuni Pueblo	Cultural resources	Additionally, Chaco's historical value is not only for those that are culturally affiliated, as Chaco Culture National Historical Park helps to teach the wider public about the history and connection that modern people of New Mexico have with the land. It shows that Indigenous people have a living history connection with the park, that the modern indigenous people still interact with the historic. It also discourages the narrative of Indigenous people as just relics of the past. The events that happen at Chaco throughout the year further encourage the people to learn and interact with Chaco and its descendants in a modern-day setting.
Eaton	Marietta	N/A	Cultural resources	By far currently the most threatened section of the GCL is within the FFO where BLM is the project lead for surface and/or subsurface lands. Does a Class I overview of the archaeology exist for the FFO? How does it address oil and & gas development? Is an update necessary?
Eaton	Marietta	N/A	Cultural resources	-Conduct a passive aerial LiDar, for the FFO to gain a broader understanding of the distribution of archaeological sites including roads. This information will better position BLM to effectively protect cultural resources by planning and limiting the proliferation of roads. BLM should focus on landscape approach, documenting communities through architecture, cultural features, and Chaco roads.
Eaton	Marietta	N/A	Cultural resources	-The BLM should suspend approval of proposals that may contribute to the effects to cultural resources or have not completed tribal consultation.
Eaton	Marietta	N/A	Cultural resources	- Across the Greater Chaco Landscape prioritize the protections for cultural resources. Require BLM and BIA, in conjunction, to communicate with the National Park Service and incorporate valid concerns prior to issuing new leases and drilling permits.
Eaton	Marietta	N/A	Cultural resources	- BLM should conduct or update their Class I Overview for cultural resources, and the collection of ethnographic information. BLM Washington Office should fund both efforts.
Eaton	Marietta	N/A	Cultural resources	[comment:2642-7; 209]Oil and gas leasing and development on BLM lands surrounding Chaco Culture National Park and A large portion of the Greater Chaco Landscape, is slated for oil field development and historically the FFO has shown that the co-mingling of energy development and resource protection around Chaco has led to past adverse effects to cultural resources and does not bode well for the future protection of cultural resource sites or cultural landscapes. The full extent of cultural resources needs to be known and understood, across the proposed withdrawal zone, and the remaining unleased lands. BLM follows a flawed practice of cultural resource surveys in the past that has tended to focus on a project-by-project basis. This approach has the effect limiting the focus only to discrete sites and fails to document the extent of road segments, much less prehistoric communities, or cultural landscapes. Prehistoric roads, many of which have already been destroyed by development in the FFO remain especially threatened as segments can be easily overlooked in an environment where the BLM is regularly compelled by the pressure of industry, to only document discrete sites, rather than community and landscape level features. Not all ancient roads are discernable by the untrained eye and require and experienced eye to avoid destruction of these features, as has occurred in the past. Passive aerial surveillance would be an inexpensive effort to better define the GCL influence sphere. This exercise would locate cultural features, prioritized for further documentation and avoidance, and lessening further effects on cultural resources and avoiding the industrial landscape that dots the already developed sections of the FFO by roads, pads, wells, and pipelines.[comment end]
Elder	Amy	N/A	Cultural resources	The monument is too important archeologically, culturally, and historically to disturb for any reason. Chaco extends beyond the immediately visible structures: there are ceremonial roads that extend in many different directions from it, linking Chaco to other sites of similar age. There are also archeological sites in the areas around the Chaco monument. Some of them have not been fully explored or documented. Chaco Canyon still has more to reveal about ancient Puebloan history and the development of Puebloan culture and religion.
Glasenapp	Logan	New Mexico Wild	Cultural resources	If oil and gas development continues to encroach upon and within the proposed withdrawal area, these direct and indirect impacts will individually, collectively, and permanently alter the irreplaceable cultural landscape that surrounds CCNHP. These impacts will be significant - and likely unavoidable - which several DOI agencies and offices have previously recognized. For example: -Advisory Council on Historic Preservation (ACHP): "The effects of continued [oil and gas] development [in the landscape surrounding Chaco Canyon] stand not only to directly impact historic properties; they may also impair the traditions and tribal way of life that has endured for centuries if not carried out with an understanding of these important connections."18 -BLM: "Leasing this parcel could potentially involve significant access issues. Access across Tsun Je Zhin Mesa north of parcel #64 could intrude across the Chaco North Road. Our staff have identified clear evidence for the North Road on Tsun Je Zhin Mesa as well as with the east half of the parcel in Ah-shi-sle-pah Wash."19 -Federal Indian Minerals Office (FIMO): "For Parcel 791 219, 99.9% of the physical [area of potential effects] APE and 70.4% of the atmospheric APE fall within the viewshed of the North Road. For Parcel 791 220, 57.5% of the physical APE and 84.2% of the atmospheric APE fall within the viewshed of the North Road. Given that the North Road is a NR eligible property (Criterion A, C, and D) and that setting is an important element of its significance, it is unlikely then that unmitigated development of Parcel 791 219 would be feasible. . . ."20 -National Park Service (NPS): "[t]he recent proposed lease sale of 36 BLM parcels for oil and gas development near Chaco Culture National Historical Park and World Heritage Site has drawn considerable concern from park management and other stakeholders. Though that sale has been postponed to January 2014, we believe this scale of development has the potential for significant adverse effects on park viewsheds and related values. The CCNHP viewshed contains numerous ancient road alignments, including portions of the Great North Road, and others that extend to the northeast and northwest. Should these lease sales go forward, park visitors will see construction and use of new oil and gas roads, interfering with their views of the ancient roads. Visitors will see oil and gas wells, new electric transmission lines, and heavy transport, construction, and ongoing well production traffic, all of which would cumulatively affect the context, setting, and historical integrity of the park.21 18 Letter from Milford Wayne Donaldson, Chairman, ACHP, to David Bernhardt, Secretary, DOI 1 (June 10, 2019). 19 Letter from David J. Mankiewicz, BLM, to Leigh Kuwanwisiwma, Director, Hopi Cultural Preservation Office 2 (Dec. 23, 2009). 20 FIMO, Oil and Gas Competitive Lease Sale EA 2021 98 (Sept. 2021 21 Letter from Lawrence T. Turk, Superintendent, Chaco Culture National Historical Park, to Lindsay Eoff, Project Manager, BLM 4 (May 29, 2013) (emphases added).
Glasenapp	Logan	New Mexico Wild	Cultural resources	In addition to years of previous work, archaeological survey and reconnaissance work (reflected in Figure 1) by Archaeology Southwest in 2020 revealed more than 4,200 archaeological and historic sites in the protective zone.55 These places were created by diverse groups-including Paleoindian, Archaic, Puebloan, Navajo, Jicarilla Apache, and others-in time periods from about 10,000 BCE to the present. Because less than 20 percent of the area enclosed by the 10-mile zone has been archaeologically surveyed, the actual site count is undoubtedly much higher. 55 Reed 2020. (See Attached PDF for Figure 1) At least 10 significant ancient Chacoan-Pueblo communities are known to lie within and just beyond the 10-mile zone around Chaco Park. These include the Bis san'ni Community, located a few miles northeast of Chetro Kettl, and the Pierre's Community, located up the Great North Road, at about the edge of the 10-mile protection zone. A linear community lies along the Ah-Shi-Sle-Pah road, which originates at Penasco Blanco and trends to the northwest for more than 25 kilometers (19 miles). Most of this linear ancient community lies within the 10-mile protection zone. Additional Chacoan communities within the 10-mile zone include Casa del Rio, Bee Burrow, Kin Indian-Escavada-Greasy Hill, Greenlee, Indian Creek, Mesa Tierra, and Tse Lichii'. As described below, these are significant sites-the characteristics and condition of which merit additional study and protection from oil-gas development. - The ancient Pueblo community at Bis san'ni comprises at least 30 sites in a roughly 4 km-square or roughly 1000-acre area. The community lies about 5 miles northeast of Pueblo Bonito. The core of the site is a Chaco great house with about 40 rooms and 5 kivas. Pueblo sites in the community around Bis san'ni contain about 50 rooms and several kivas. In addition, the community contains resource procurement sites and other sites of limited use. - The Pierre's site complex is the largest community on Chaco's Great North Road. Pierre's contains three small Chacoan great houses with perhaps 50 total rooms, single and second-story, and several kivas. The community also incorporates a watchtower-like feature called El Faro (the lighthouse). In the community around Pierre's core, at least 75 rooms are present at numerous small pueblo habitation or field house sites. Additional sites include artifact scatters, the Great North Road, and rock features. Additional discussion of Pierre's is provided below. - Mesa Tierra is a Chacoan great house with 30 rooms and 5 kivas located southwest of Pueblo Bonito. The site was built on a mesatop and includes a small community of surrounding sites with perhaps 20 additional rooms. - Casa del Rio lies along Chaco's West Road and comprises a great house with perhaps 140 rooms and several large, dense midden areas. An ancient reservoir lies south of the great house. The community around Casa del Rio is largely unknown, due to the lack of archaeological survey. - Greenlee lies southeast of the Chaco Park boundary and consists of a Chacoan great house with 15 rooms and one kiva. It sits on a low mesatop. A Chacoan road segment run to the east of the site. A probable community of small sites surrounds Greenlee but its nature is unclear due to limited archaeological investigation. - Bee Burrow is a small Chacoan great house with 11 rooms and 2 kivas located south of Pueblo Bonito and the Park boundary. Chaco's South Road passes by the site to the east. Petroglyphs are present along a cliff face southwest of the great house. The community surrounding Bee Burrow is poorly understood but contains dozens of small pueblo sites and perhaps 500 total rooms. - The Indian Creek community lies west of Chaco and includes two small Chacoan great houses - Casa Cielo and Casa Abajo - and a community of 20 small pueblo sites with over 100 rooms. In addition to the communities listed above, there are others-clusters of sites that may constitute distinct communities and have not yet received detailed examination.
Glasenapp	Logan	New Mexico Wild	Cultural resources	Inaccurate/Misleading Statement #3: CCNHP and important cultural resources in the surrounding landscape are already protected. The Chaco culture's sphere of influence encompassed much - if not the entirety - of the Four Corners region. Evidence of this is found at Wupatki National Monument in Arizona, Chimney Rock National Monument in Colorado, and the Bluff Great House in Utah. Yet, these protected places are exceptions to the norm, as oil and gas development - particularly on public lands in northwestern New Mexico - has "destroyed" many significant cultural features created by the Chacoans and turned others into "industrial parks." Further, while oil and gas development is not allowed within CCNHP, much of the surrounding landscape, including public lands bordering the national park, are currently open to leasing and drilling. According to NPS, there would likely be "significant adverse effects on park viewshed and related values" if federal lands in the proposed withdrawal area are leased and drilled.22 That is why ACHP has called for a "buffer zone" around CCNHP and why the All Pueblo Council of Governors and many others are supporting legislation that would statutorily withdraw federal lands within ten miles of CCNHP from future oil and gas leasing. 22 Id.
Glasenapp	Logan	New Mexico Wild	Cultural resources	Other than the Pueblo of Acoma's 2018 project with Archaeology Southwest (Anschoetz, Reed et al. 2019, little recent ethnographic work has been undertaken with any Tribal groups. Dozens of traditional cultural properties (TCPs) were revealed during the Acoma Project within the 10-mile zone, indicating that there are probably hundreds, if not thousands, of TCPs and other Tribal cultural sites as yet unidentified across Greater Chaco. Current, ongoing cultural studies (funded by the Bureau of Indian Affairs), with the Chaco Heritage Tribal Association-a coalition of Pueblo groups-and the Navajo Nation will add immeasurably to our understanding of the 10-mile zone and the Greater Chaco Landscape. A failure to protect Federal lands in the 10-mile zone would undoubtedly result in loss of sensitive cultural resources. Beyond the specifics of TCPs, sacred sites, cultural and historic sites, other scientific aspects of the Greater Chaco Landscape attest to its significance, including the Chaco Park's International Dark Sky designation and the incredible viewsheds and soundscapes Ruth Van Dyke (2017) and other archaeologists are only beginning to document. Additionally, the 10-mile zone encompasses much of the Park's viewshed, and visitors are able to view and appreciate the significance of the largely-undeveloped landscape surrounding the Park from Pueblo Alto, Pueblo Pintado, and several other locations. These values plainly underscore that the 10-mile zone of protection is not arbitrary. The 10-mile zone contains irreplaceable ancient and historic sites and communities that merit greater protection than BLM and BIA regulations currently provide.
Glasenapp	Logan	New Mexico Wild	Cultural resources	To better understand the nature and extent of cultural resources in the 10-mile zone, Archaeology Southwest undertook a reconnaissance project focusing on the northwest, north, and northeast portions of the 10-mile area.56 A primary goal of the work was to identify or confirm cultural communities in the 10-mile zone, with the main criterion being spatial proximity. In several cases, the mix of sites across time periods was substantial. For these areas, then, the geographically proximate sites were not described as discrete communities, but rather as site clusters. 56 Reed 2020. A larger objective in this work was connected to the currently ongoing RMPA and EIS planning process undertaken by the BLM and the Bureau of Indian Affairs (BIA). This goal involved looking at the Greater Chaco Landscape in not so much a totally unique manner, but at a different scale than is pursued by the Agencies. Typically, Federal Agencies in the western United States treat cultural sites as single phenomena during the Section 106 process. Thus, archaeological contractors identify sites or TCPs during projects, and the projects are redesigned, in most cases, to avoid the resources by 50-100 feet. In rarer cases, such as road alignments, the decision is made to conduct test excavations to mitigate effects on the cultural resources. This avoidance policy has spared many cultural resources from outright destruction, but has also resulted in a highly fragmented cultural landscape across many places of the American West, and in particular, across the Greater Chaco Landscape. As a result, many indirect and cumulative effects have built up across Greater Chaco, as the ancient Chacoan-Puebloan landscape has been slowly but persistently in-filled by the industrial infrastructure of the oil-gas industry. In our view, a better perspective looks at cultural sites not in isolation, but as pieces of larger communities on the landscape. This community- or landscape-based approach has been part of archaeological research for nearly 25 years, but it has not yet appeared in the Agencies' playbook. Although the BLM lands in Greater Chaco are currently leased at more than 90 percent, this landscape-level approach can be implemented to protect communities and site clusters that have not yet seen impacts, such as those seen at the Pierre's Community.57 57 See Van Dyke 2017

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Glasenapp	Logan	New Mexico Wild	Cultural resources	Chaco Culture WHS includes Chaco Culture National Historical Park ("CCNHP"), Aztec Ruins National Monument, managed by the National Park Service, as well as 6 Archaeological Protection Sites . The Outliers are a part of a Chacoan network recognized as part of the World Heritage Site including road, communities with great houses. Together these features compose a broad cultural landscape where no one part can be removed from the whole. In addition, since the 1995 Congressional Act recognizing 39 Outliers, significant new information has come to light about other Chacoan settlements in the region that are worthy of protection as candidate Outliers.1 1 See http://www.chacoarchive.org/cra/outlier-database/ .
Glasenapp	Logan	New Mexico Wild	Cultural resources	1 Inaccurate/Misleading Statement #2: Oil and gas companies have not harmed cultural resources or sacred sites in the landscape surrounding Chaco Canyon. Oil and gas development has completely transformed much of northwestern New Mexico. What was once a remote and undeveloped region now resembles an industrial zone. Over 15,000 miles of roads, mostly built by the oil and gas industry, fragment the landscape surrounding Chaco Canyon.11 More than 90 percent of federal lands in the Farmington Field Office are leased,12 and companies have drilled over 37,000 wells in the area.13 11 BLM, Mancos-Gallup RMPA/EIS AMS 2-122 (Mar. 2015). 12 Press Release, Legislation to Permanently Protect Greater Chaco Landscape Passes House of Representatives (Oct. 30, 2019). 13 BLM, Farmington Mancos-Gallup 2020 Affected Environment Supplemental Report AE-92 (Feb. 2020). This has directly and profoundly harmed significant cultural resources and sacred sites. Oil and gas development has "destroyed" long stretches of the Great North Road - a highly significant "cosmographic expression" built by the Chacoan people to "unit[e] the Chaco world and its work with its spiritual landscape."14In fact, the broader complex of Chacoan roads that emanates from Chaco Canyon and "unites" cultural features across the broader landscape is "rapidly deteriorating," in large part due to oil and gas development.15 14 Sofaer, Marshall, and Sinclair, The Great North Road: a Cosmographic Expression of the Chaco Culture of New Mexico 9. 15 Friedman, Sofaer, and Weiner, Remote Sensing of Chaco Road Revisited 378 (Nov. 2017). The indirect impacts of oil and gas development are also widespread and severe. According to leading Chaco experts, components of the Chaco Culture WHS now resemble "industrial parks."16 For example, Despite the efforts of the Bureau of Land Management and the National Park Service to jointly minimize the ground footprint impacts of oil and gas drilling on the Pierre's community, there have been significant impacts to the viewscape and the soundscape. No less than 12 pumpjacks and at least 5 drilling containers are visible from the high places in the community. Pumpjacks . . . are prominently visible on the skyline from Houses A and B as well as the pinnacle sites. Noise from the nearest pumpjack . . . , located approximately 600 m southwest of Pierre's butte, is audible from throughout the community. Looking south towards Chaco Canyon, numerous pumpjacks . . . dot the valley floor.17 16 Ruth M. Van Dyke, Impacts of Oil and Gas Drilling on Viewscapes and Soundscapes at the Chaco Outlier of Pierre's, San Juan County, New Mexico 1 (Feb. 16, 2017). 17 Id. at 14-15.
Glasenapp	Logan	New Mexico Wild	Cultural resources	To add to what Van Dyke's study has revealed and what prior BLM GIS-based analysis also showed, we compiled a map of the Pierre's Community and then overlaid the current BLM ACEC that was put in place years ago in an effort to protect the community and keep oil-gas development away (Figure 2). Again, as Van Dyke has clearly illustrated, the number and density of oil-gas well pads and other facilities has compromised the viewshed and soundscape around the Pierre's Community. This study and the mapping exercise amplify this message. Figure 2 shows sites in the ancient Pierre's Community and site cluster, encompassing at least 160 sites of varying ages (primarily Chacoan with some Archaic, Early Navajo, and Historic Navajo manifestations), with the BLM's ACEC zones of protection shown. The ACECs were designed to protect Pierre's and two sections of the Great North Road, both north and south of the community. As the map shows, however, the ACECs cut through the middle of the community-protecting some sites but not offering any protection for outlying sites that are part of the ancient and historic community. Although the Pierre's Community is recognized as part of the Chaco Culture World Heritage designation, beyond BLM small ACECs, this amazing place has no special protection from oil-gas or other development. (See attached PDF for Figure 2) Moving north of the Pierre's Community, we come to a point that is near the northern margin of the 10-mile zone (Figure 3). This site cluster, described as "North of Pierre's," includes more than 100 sites of primarily historic Navajo and Archaic ages that lie on predominantly BLM lands. Beyond the initial recording of these sites on various projects, little additional research has been completed. At present, we do not know whether these sites constitute one or more discrete cultural communities. Additional research is necessary to better understand this very interesting site cluster. We do know that the density of sites in this cluster was the main reason that the withdrawal boundary was drawn where it lies. Currently, this cluster of sites has little protection. (See attached PDF for Figure 3) West of the Pierre's Community, we come to another dense cluster of sites identified as the Split Lip Flats cluster, after a local topographic feature (Figure 4). This very dense cluster contains at least 266 sites that are primarily of Middle-Late Archaic, Basketmaker II, and Pueblo I-III origin, located primarily on BLM-managed lands. The Chacoan road known as the Ah-She-Sle-Pah road is shown on the same map (in Figure 4), running northwest from just below the Chaco Canyon sites of Penasco Blanco and pointing to the core of the Split Lip Flats cluster. Although it has hardly been documented, there is a Pueblo II community in this cluster on the road alignment. More research would help us understand this area northwest of Chaco's boundary. As the map figure shows, there is an ACEC that encompasses a small portion of the Ah-She-Sle-Pah road. The bulk of this dense and poorly understood site cluster and community lies on BLM lands, and it is not protected in any way. (See attached PDF for Figure 4) Next, we move to the east, past Chaco's boundary and to the community known as Bis san'ni (Figure 5). This Chacoan community was well studied in the late 1970s and early 1980s by Cory Breternitz, Mike Marshall, and others. The community encompasses at least 61 sites that are predominantly Pueblo II in age. Earlier and later Pueblo sites are present, as well as Archaic and Historic Navajo age sites. On the north, the community is largely bounded by the wide swath of Escavada Wash. BLM land is but a small percentage in the Bis san'ni area, mostly on the north end of the Chacoan community. Although Bis san'ni is recognized as unique Chacoan Outlier, it is afforded no special protection, and oil-gas wells could be placed in close proximity to the community. (See attached PDF for Figure 5) Lastly, we move north of Bis san'ni to a location near the northeast edge of 10-mile zone. This site cluster is the smallest, with 30 sites, and is identified as the Northeast of Chaco site cluster (Figure 6). The sites are split between Historic Navajo camps and settlement dating between 1880 and 1960, and a range of Archaic and likely Archaic camps and scatter sites. Similar to the North of Pierre's site cluster, these sites are known only through limited, survey-level documentation. Data show the presence of a Navajo community in the area, from 1880 to 1960. Nevertheless, additional research is required to better understand the Navajo community and to tease out the parameters of Archaic period settlement in the cluster, from 5500 to 800 BCE. This site cluster is probably the most at-risk of all discussed here, because companies working in the Mancos Shale oil development have placed many wells in the area just beyond the site-cluster boundary and the 10-mile boundary. If the BLM and BIA do not honor the 10-mile protection zone in this area, it is very likely that the sites in this cluster will become mere islands of "preserved" remnants of Navajo and Archaic cultures embedded within a highly industrialized modern landscape. (See attached PDF for Figure 6) The group of six ancient and historic communities and site clusters discussed here is just a sample of those that lie within the 10-mile protection zone. Along with the ten previously documented and described Chacoan communities, they clearly illustrate the high density of cultural and historic sites in this area directly adjacent to Chaco Park. These findings again reinforce our understanding that the 10-mile zone of protection is not an arbitrary boundary. The 10-mile zone contains irreplaceable ancient and historic sites and communities that merit much more protection than BLM and BIA policy and regulations currently provide.
Glasenapp	Logan	New Mexico Wild	Cultural resources	The National Park Service and archaeological experts with decades of experience studying Chaco Canyon and the surrounding landscape have identified oil and gas development as the "greatest external threat" to the integrity of the Chaco Culture WHS. Notably, the landscape that surrounds and contextualizes the Chaco Culture WHS contributes to its "outstanding universal value." According to NPS, [t]he original [WHS] nomination underwent an important modification that led to the inclusion of five associated Chaco Greathouse communities managed by the BLM and Aztec Ruins [National Monument], another NPS unit. This unusual action (which followed the US congressional passage of PL 96-550) was done to recognize that the Chacoan civilization and its remains are not confined to the concentrated area in Chaco Canyon proper. . . . The listing is remarkable in that UNESCO recognized and requested that the additional 'outlying' segments be included in the listing because they illustrate the vast extent of the Chaco World in the 10th through the 12th centuries.40 40 Letter from Lawrence T. Turk, Superintendent, Chaco Culture National Historical Park, to Lindsay Eoff, Project Manager, BLM 3 (May 29, 2013) (emphases added). NPS has also noted that while "[m]ost of the Great North Road and numerous other road alignments are outside of the World Heritage boundaries[.] . . . views of and along those roads contribute to Chaco's outstanding universal value."41 41 Id. However, over the years, oil and gas development has impaired the "outstanding universal values" of the WHS, as detailed in a recent assessment of Pierre's Site by Professor Ruth Van Dyke, a leading expert on Chaco Canyon. Professor Van Dyke found "that although the BLM has taken care not to place drill rigs on top of surface archaeological sites, there are major indirect and cumulative impacts to the resources - specifically, to the viewscapes and soundscapes. Sadly, rather than a sacred landscape and part of a UNESCO World Heritage Site, the Pierre's community today resembles an industrial park."42In a separate study, Professor Van Dyke and two of her colleagues indicated that "energy development in the 20th century has destroyed virtually any traces of the North Road between Kutz Canyon and Aztec."43As noted earlier, "views of and along [the Great North Road] contribute to Chaco's outstanding universal value."44 42 Ruth M. Van Dyke, Impacts of Oil and Gas Drilling on Viewscapes and Soundscapes at the Chaco Outlier of Pierre's, San Juan County, New Mexico 1 (Feb. 16, 2017). 43 Van Dyke, Lekson, and Heitman, Chaco Landscapes: Data, Theory and Management 50 (Feb. 25, 2016). 44 Letter from Lawrence T. Turk, Superintendent, Chaco Culture National Historical Park, to Lindsay Eoff, Project Manager, BLM 3 (May 29, 2013).
Hendrickson	Gerald	N/A	Cultural resources	Many sites are only now being studied after previous archaeological survey and will likely be lost if oil and gas leases are continued to be allowed. Already much of the Great North Road may have been lost due to drilling activity. Regardless of the scientific value to us and the world the sites in the proposed 10 mile protection zone are sacred to the Navajo and Pueblo peoples, and have been so for millennia. This potential destruction of important sites needs to be weighed against the limited value of the area for oil and gas production.
Higuita	Rafael	N/A	Cultural resources	There should be the 10 mile exclusion zone to protect the archaeological resources in the site as well as maintain a healthy environment. There are likely a large amount of undiscovered archaeological sites that could be learned from in the zone, as well as the fact the site has significant spiritual elements for the Pueblo tribes and the Navajo Nation. Oil and Gas resource extraction would damage the landscape and surrounding area even more and decrease future potential research chances into the archaeological sites.
Kowemy, Jr.	Governor Martin	Pueblo of Laguna	Cultural resources	While there are numerous archaeological resources relating to Pueblo ancestors throughout the sacred landscape of the Greater Chaco Region, many of the cultural resources of great importance to our Pueblo are not necessarily archaeological in nature. These nonarchaeological resources, equally important for their cultural and spiritual value, include traditional cultural properties and sacred sites, such as shrines, springs, plant and mineral gathering places, viewsheds, and other important natural features and sites. Such resources typically cannot be identified by archaeologists, but only by Pueblo traditional practitioners.
Lekson	Stephen	N/A	Cultural resources	Among many unique aspects of Chaco is its landscape features -- most notably, long linear earthen monuments we call "roads." These roads did not bear wheeled traffic, but they show many pedestrian features, such as stairs and ramps. They also offer a nearly unique record of Chaco's ancient region and its interconnections, both economic and symbolic. Roads are, almost literally, the preserved framework of Chaco's region, and they represent an archaeological resource almost unparalleled in all of prehistory, certainly nationally and to a very great extent globally. There has been little concerted research on roads since the BLM-sponsored research of the 1970s and '80s. Unfortunately, there is a pervasive notion that Chaco's roads are perfectly preserved and completely known. Neither is true. We know there are many more miles of road than are currently documented: obvious alignments of known sites, fragments of roads observed at those sites, and other clues strongly suggest that more roads remain to be discovered. These can expected to be densely concentrated at and around Chaco Canyon, the "hub" of the road network. Energy development -- pads, service roads, pipelines, etc -- will destroy evidence for heretofore undocumented roads, which will slip through the net of small-scale CRM clearance operations. It's hard to catch a thirty-mile road in a six acre well-pad survey. Preserving the landscape around Chaco by withdrawal will insulate the canyon itself from resource-impacting undertakings, and will preserve the landscape immediately around the canyon for future research and discovery of features we cannot at present document, but which all archaeologists working in the area would agree are almost certainly present.
Matson	Jojo	N/A	Cultural resources	In addition to years of previous work, archaeologicalsurvey and reconnaissance work by Archaeology Southwest in 2020 revealed more than 4,000 archaeological and historic sites in the northern portion of the protective zone.
Meissner	Lisa	Santa Clara Pueblo	Cultural resources	5. The potential treatment of human remains and cultural items defined by NAGPRA if discovered. If the NEPA review, mineral potential study, or other federal activities associated with considering or carrying out the contemplated Chaco administrative withdrawal unearth human remains or cultural items subject to Native American Graves Protection and Repatriation Act (NAGPRA) enforcement, we trust that DOI will act immediately to cease all such activities and comply with the procedural requirements of the law. The Pueblos will be ready, as called for under NAGPRA, to carry out the process of identifying, honoring, and returning any Ancestor or cultural item to our home communities. However, we note that completion of the Chaco administrative withdrawal will allow our Ancestors and cultural items to remain in place, where they belong in the sacred landscape, undisturbed.
Meissner	Lisa	Santa Clara Pueblo	Cultural resources	4. Places of traditional religious or cultural importance that might exist but have not been discovered. This question hones in on the one of the most significant concerns of the Pueblos and Tribal Nations in regard to the Greater Chaco Region: the vast existence of undocumented culturally significant or sacred sites. Because of the incredible depth of Tribal history and ongoing use of the Greater Chaco Region, we know that this area is a living treasure replete with archaeological, religious, cultural, and ceremonial heritage not to mention the fact that the entire landscape is one interconnected sacred place. It is precisely because of these riches that the United Nations recognizes the CCNHP as a UNESCO World Heritage Site.59 59 Chaco Culture, UNESCO WORLD HERITAGE LIST, http://whc.unesco.org/en/list/353/ (last visited April 20, 2022). Yet, there is almost no history of DOI, through BLM or otherwise, coordinating with the Pueblos on cultural resource surveys or studies in the Greater Chaco Region. As a result, there exists a void of ethnographic information pertaining to the Pueblos' shared and individual, unique cultural resources in the Greater Chaco Region. This means that, when DOI reviews existing documented data prior to deciding whether to move forward with development for example, whether to hold a lease sale-Pueblo cultural resource data is sorely lacking from the record available to DOI for review. As we have testified before Congress, commented on in federal consultations and listening sessions, and communicated in official statements and outreach-the withdrawal of these federal lands from future mineral development is existentially essential to protecting these undocumented sites and the sacred landscape more broadly. Without such action, mineral development in the Greater Chaco Region could increase from the over 90% of federal lands that are affected today and come dangerously close to the heart of this living cultural landscape, forever destroying it and the many cultural resources within it.
Meissner	Lisa	Santa Clara Pueblo	Cultural resources	In fact, there is a serious lack of data identifying cultural resources in the Greater Chaco Region important to the Pueblos and other Tribal Nations. Without such data, which must be collaboratively generated by Tribal experts and federal officials, the risk of mineral development impacting a sacred or cultural site is unacceptably high.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Mitchell	Mark	All Pueblo Council of Governors	Cultural resources	Due to the significant lack of published literature and studies addressing Pueblo cultural resources, especially studies that incorporate the views of Pueblo traditional practitioners, there are major gaps in the data of known Pueblo cultural resources in the Greater Chaco Region. Therefore, when federal managers permit oil and gas development in reliance upon non-Pueblo cultural resource managers to perform Class I or Class III National Historic Preservation Act (NHPA) inventories, there are inevitably significant deficiencies in the data that is produced. APCG contends that, unless qualified Pueblo experts are consulted at the time of the cultural resource analysis, no reliable conclusion can be drawn regarding the existence or non-existence of Pueblo cultural resources in any Class I or Class III survey. As a result, when ground disturbing activities related to oil and gas development occur, there is significant potential for adverse impacts to both identified and unidentified cultural resources and eligible historic properties, including traditional cultural properties and cultural landscapes. Impacts may include, but are not limited to, visual impacts, audible impacts, disruptions of pathways or pilgrimage trails, destruction of cultural resources, and any number of additional impediments to cultural practitioners' use of an area or cultural resources.24 Further, because many of these cultural resources may, upon further analysis, be historic properties eligible for inclusion on the National Register, development may impact the integrity of location, setting, or feeling of a historic property.25 The withdrawal of these federal lands from future mineral development is, thus, existentially essential to protecting undocumented and documented sites. 24 APCG notes that the Chaco Heritage Tribal Association's scope of work for its tribally-led cultural resource study will provide additional information on the potential impacts of oil and gas development on Pueblo cultural resources. 25 See 36 C.F.R. § 60.4.
Not Provided	Not Provided	N/A	Cultural resources	Chacoan cultural sites, structures, ancient roads and sacred landscapes in the greater Chaco cultural sphere. These outlying sites are extremely important not only as individual entities, but also as important components to understand the full extent of the greater Chaco Culture. They all contribute to Chaco being designated a World Heritage site and a unique cultural development in human history. Many sites are exposed and intact, some are barely explored, while others no doubt still are undiscovered, and the amazing, but extremely delicate, mysterious, interconnecting road systems are still being mapped and understood. If the unknown sites are destroyed or damaged, we will never be able to piece back the archaeological evidence. All of these sites and landscapes are fragile, irreplaceable and highly at risk to damage, destruction and desecration brought upon by extractive industries and their related infrastructures. Furthermore, additional significant archaeological sites on private lands within or near the area are also subject damage caused by industrial extractive and other activities on or accessing nearby BLM lands.
				The 10-mile protection zone proposed for Withdrawal in the Greater Chaco Landscape surrounding the Chaco Culture National Historical Park contains roughly 4,200 known archeological and historic sites that date roughly from 10,000 BCE to the present.
Pasqual	Theresa	Pueblo of Acoma	Cultural	Because less than 20 percent of the area enclosed by the 10-mile zone of protection has been surveyed, the actual site count is undoubtedly higher. Given the dozens of traditional cultural properties, or TCPs, revealed by Acoma, we know that this number could possibly be greater.
Reed	Paul	Archaeology Southwest	Cultural resources	A review by Archaeology Southwest in 2020 revealed more than 4,200 archaeological and historic sites in the protective zone (Reed 2020). These places were created by diverse groups-including Paleoindian, Archaic, Pueblo, Navajo, Jicarilla Apache, and others-in time periods from about 10,000 BCE to the present. Because less than 20 percent of the area enclosed by the 10-mile zone has been archaeologically surveyed, the actual site count is undoubtedly much higher.
Reed	Paul	Archaeology Southwest	Cultural resources	Chacoan Communities in the 10-mile Withdrawal Zone Much previous archaeological study has focused on ancient Chacoan-Pueblo communities. At least 10 such communities are known to lie within and just beyond the 10-mile zone around CCNHP, and they are discussed below. The related sites that comprise these communities merit condition assessments, additional study, and protection from oil-gas development. ? The ancient Pueblo community at Bis san'ni comprises at least 30 sites in a roughly 4 km-square or roughly 1000-acre area. The community lies about 5 miles northeast of Pueblo Bonito. The core of the site is a Chaco great house with about 40 rooms and 5 kivas. Pueblo sites in the community around Bis san'ni contain about 50 rooms and several kivas. In addition, the community contains resource procurement sites and other sites of limited use. ? The Pierre's site complex is the largest community on Chaco's Great North Road. Pierre's contains three small Chacoan great houses with perhaps 50 total rooms, single and second-story, and several kivas. The community also incorporates a watchtower-like feature called El Faro (the lighthouse). In the community around Pierre's core, at least 75 rooms are present at numerous small pueblo habitation or field house sites. Additional sites include artifact scatters, the Great North Road, and rock features. Additional discussion of Pierre's is provided below. ? A linear community lies along the Ah-Shi-Sle-Pah road and includes more than 45 sites. The road originates at Penasco Blanco and trends to the northwest for more than 25 kilometers (19 miles). Most of this linear ancient community lies within the 10-mile protection zone. ? Tse Lichii' is a small great house community, located southeast of Chaco's boundary, It comprises a small great house and several associated small pueblos. ? Mesa Tierra is a Chacoan great house with 30 rooms and 5 kivas located southwest of Pueblo Bonito. The site was built on a mesatop and includes a small community of surrounding sites with perhaps 20 additional rooms. ? Casa del Rio lies along Chaco's West Road and comprises a great house with perhaps 140 rooms and several large, dense midden areas. An ancient reservoir lies south of the great house. The community around Casa del Rio is largely unknown, due to the lack of archaeological survey. ? Greenlee lies southeast of the CCNHP boundary and consists of a Chacoan great house with 15 rooms and one kiva. It sits on a low mesatop. A Chacoan road segment runs to the east of the site. A probable community of small sites surrounds Greenlee but its nature is unclear due to limited archaeological investigation. ? Bee Burrow is a small Chacoan great house with 11 rooms and 2 kivas located south of Pueblo Bonito and the CCNHP boundary. Chaco's South Road passes by the site to the east. Petroglyphs are present along a cliff face southwest of the great house. The community surrounding Bee Burrow is poorly understood but contains dozens of small pueblo sites and perhaps 500 total rooms. ? The Indian Creek community lies west of Chaco and includes two small Chacoan great houses-Casa Cielo and Casa Abajo-and a community of 20 small pueblo sites with over 100 rooms. In addition to the communities listed above, there are others-clusters of sites that may constitute distinct communities and have not yet received detailed examination.
Reed	Paul	Archaeology Southwest	Cultural resources	Six site cluster/communities were studied: Pierre's Community, North of Pierre's cluster, Split Lip Flat and Ah-She-Sle-Pah road cluster, Kin Indian-Escavada-Greasy Hill Community, Bis san'ni Community, and Chaco Northeast site cluster (see map - SEE ATTACHMENT FOR MAP). To add to what Van Dyke's study has revealed and what prior BLM GIS-based analysis also showed, we compiled a map of the Pierre's Community and then overlaid the current BLM area of critical environmental concern (ACEC) that was put in place years ago in an effort to protect the community and keep oil-gas development away. Again, as Van Dyke has clearly illustrated, the number and density of oil-gas well pads and other facilities has compromised the viewshed and soundscape around the Pierre's Community. Our study and mapping exercise further amplify this message. Sites in the ancient Pierre's Community and site cluster encompass at least 160 sites of varying ages (primarily Chacoan with some Archaic, Early Navajo, and Historic Navajo manifestations), with the BLM's ACEC zones of protection shown. The ACECs were designed to protect Pierre's and two sections of the Great North Road, both north and south of the community. However, the ACECs cut through the middle of the community-protecting some sites but offering no protection for outlying sites that are part of the ancient and historic community. Although the Pierre's Community is recognized as part of the Chaco Culture World Heritage designation, beyond BLM small ACECs, this amazing place has not been considered holistically and is not adequately protected from oil-gas or other development. Slightly north of the Pierre's Community, near the northern margin of the 10-mile zone, is a site cluster described as "North of Pierre's." It includes more than 100 sites of primarily historic Navajo and Archaic ages that lie on predominantly BLM lands. Beyond the initial recording of these sites on various projects, little additional research has been completed. At present, we do not know whether these sites constitute one or more discrete cultural communities. Additional research is necessary to better understand this very interesting site cluster. The density of sites in this cluster was the main reason that the withdrawal boundary shows a slight extension in this area. Currently, this cluster of sites has little protection. West of the Pierre's Community, we come to another dense cluster of sites identified as the Split Lip Flats cluster, after a local topographic feature. This very dense cluster contains at least 266 sites that are primarily of Middle-Late Archaic, Basketmaker II, and Pueblo I-III origin, located primarily on BLM-managed lands. The Chacoan road known as the Ah-She-Sle-Pah road runs northwest from just below the Chaco Canyon sites of Penasco Blanco and pointing to the core of the Split Lip Flats cluster. Although it has hardly been documented, there is a Pueblo II community in this cluster on the road alignment. More research would help us understand this area northwest of Chaco's boundary. There is an ACEC that encompasses a small portion of the Ah-She-Sle-Pah road, providing some limited protection. The bulk of this dense and poorly understood site cluster and community lies on BLM lands, and it is not protected in any way. Next, we move to the east, past Chaco's boundary and to the community known as Bis san'ni. This Chacoan community was well studied in the late 1970s and early 1980s by Cory Breternitz, Mike Marshall, and others. The community encompasses at least 61 sites that are predominantly Pueblo II in age. Earlier and later Pueblo sites are present, as well as Archaic and Historic Navajo age sites. On the north, the community is largely bounded by the wide swath of Escavada Wash. BLM land is but a small percentage in the Bis san'ni area, mostly on the north end of the Chacoan community. Although Bis san'ni is recognized as a unique Chacoan Outlier, it is afforded no special protection, and oil-gas wells could be placed in close proximity to the community. Lastly, we move north of Bis san'ni to a location near the northeast edge of the 10-mile zone. This site cluster is the smallest, with 30 sites, and is identified as the Northeast of Chaco site cluster. The sites are split between Historic Navajo camps and settlements dating between 1880 and 1960, and a range of Archaic and likely Archaic camps and artifact scatter sites. Similar to the North of Pierre's site cluster, these sites are known only through limited, survey-level documentation. Data show the presence of a Navajo community in the area, from 1880 to 1960. Nevertheless, additional research is required to better understand the Navajo community and to tease out the parameters of Archaic period settlement in the cluster, from 5500 to 800 BCE. This site cluster is probably the most at-risk of all discussed here, because companies working in the Mancos Shale oil development have placed many wells in the area just beyond the site-cluster boundary and the 10-mile boundary. If the BLM and BIA do not honor the 10-mile protection zone in this area, it is very likely that the sites in this cluster will become mere islands of "preserved" remnants of Navajo and Archaic cultures embedded within a highly industrialized modern landscape. The group of six ancient and historic communities and site clusters discussed here is just a sample of those that lie within the 10-mile protection zone. Along with the 10 previously documented and described Chacoan communities, they clearly illustrate the high density of cultural and historic sites in this area directly adjacent to CCNHP. These findings again reinforce our understanding that the 10-mile zone of protection is not an arbitrary boundary. The 10-mile zone contains irreplaceable ancient and historic sites and communities that merit much more protection than BLM and BIA policy and regulations currently provide.
Reed	Paul	Archaeology Southwest	Cultural resources	These values plainly underscore that the 10-mile zone of protection is not arbitrary. The 10-mile zone contains irreplaceable ancient and historic sites and communities that merit greater protection than BLM and BIA regulations currently provide. This reinforces the need for permanent withdrawal of the 351,000 acres in Secretary Haaland's order, as well as the need for legislation to permanently remove the threat of future oil-gas development from this land.
Reed	Paul	Archaeology Southwest	Cultural resources	To better understand the nature and extent of cultural resources in the 10-mile zone, in 2020, Archaeology Southwest undertook a reconnaissance project focusing on the northwest, north, and northeast portions of the 10-mile area (Reed 2020). A primary goal of the work was to identify or confirm cultural communities in the 10-mile zone, with the main criterion being spatial proximity. In several cases, the mix of sites across time periods was substantial. For these areas, then, the geographically proximate sites were not described as discrete communities, but rather as site clusters. A larger objective in this work was connected to the currently ongoing Resource Management Plan Amendment (RMPA) and Environmental Impact Statement (EIS) planning process undertaken by the BLM and the Bureau of Indian Affairs (BIA). This goal involved looking at the Greater Chaco Landscape at a different scale than is pursued by the agencies. Typically, federal agencies in the western United States treat cultural sites as single phenomena during the Section 106 process. Thus, archaeological contractors identify sites or Traditional Cultural Properties (TCPs) during projects, and the projects are redesigned, in most cases, to avoid the resources by 50-100 feet. In rarer cases, such as road alignments, the decision is made to conduct test excavations to mitigate effects on the cultural resources. While this avoidance policy has spared many cultural resources from outright destruction, it creates a highly fragmented cultural landscape across many places of the American West, and in particular, across the Greater Chaco Landscape. As a result, substantial indirect and cumulative effects have built up across Greater Chaco, as the ancient Chacoan-Puebloan landscape has been slowly but persistently in-filled by the industrial infrastructure of the oil-gas industry. In our view, a better perspective looks at cultural sites not in isolation, but as pieces of larger communities on the landscape. This community- or landscape-based approach has been part of archaeological research for nearly 25 years, but it is rarely followed by Agencies. Although the BLM lands in Greater Chaco are currently leased at more than 90 percent, this landscape-level approach can be implemented to protect communities and site clusters that have not yet seen impacts, such as those seen at the Pierre's Community (see Van Dyke 2017).
Reed	Paul	Archaeology Southwest	Cultural resources	The 10-mile zone around Chaco contains more than 4,200 archaeological, historic, and sacred sites. These places were created by diverse groups-including Paleoindian, Archaic, Pueblo, Navajo, Jicarilla Apache, and others-in time periods from about 10,000 BCE to the present. Because less than 20 percent of the area enclosed by the 10-mile zone has been archaeologically surveyed, the number of cultural resources in the area is undoubtedly much higher.
Reed	Paul	Archaeology Southwest	Cultural resources	Two recent projects have provided some ethnographic data on the Greater Chaco Landscape: 1) the Pueblo of Acoma's 2018 project with Archaeology Southwest (Ansuetz et al. 2019), and 2) the Navajo- Gallup Water Supply Project (NGWSP). Dozens of traditional cultural properties (TCPs) were revealed during the Acoma Project within the 10-mile zone, indicating that there are probably hundreds, if not thousands, of TCPs and other significant ethnographic resources as yet unidentified across the Greater Chaco Landscape. Furthermore, during the NGWSP, Tribes have identified hundreds of traditional cultural properties and other ethnographic resources within the Greater Chaco Landscape and emphasized the continued importance of this landscape within each Tribe's cultural traditions. Currently, in association with the Chaco Heritage Tribal Association, six Pueblos are working on studies that address their connections to the Greater Chaco Landscape. In addition, the Navajo Nation is also working on a study on its associations with the Greater Chaco Landscape. These studies will add immeasurably to our understanding of the 10-mile zone and the broader landscape. A failure to protect Federal lands in the 10-mile zone would undoubtedly result in loss of sensitive cultural resources. In addition to the archaeological and ethnographic resources within the Greater Chaco Landscape, there are other scientific aspects of the landscape to consider, including the CCNHP's International Dark Sky designation and the incredible viewsheds and soundscapes Ruth Van Dyke (2017) and other archaeologists are only beginning to document. Additionally, the 10-mile zone encompasses much of the CCNHP's viewshed, and visitors are able to view and appreciate the significance of the largely- undeveloped landscape surrounding the CCNHP from Pueblo Alto, Pueblo Pintado, and several other locations. Finally, Chaco Culture National Historic Park and several outlying sites are UNESCO World Heritage Sites.
Reed	Paul	Archaeology Southwest	Cultural resources	Chaco Culture National Historic Park and several outlying sites are UNESCO World Heritage Sites. The values associated with Chaco Park and the surrounding Greater Chaco Landscape make clear that much stronger protection is needed. Oil gas activity has had a significant impact across this landscape, and specifically to the area around the Pierre's Community, which lies at the edge of the 10-mile zone. In fact, it is fair to say that oil-and-gas activity has transformed large portions of the Pierre's Community, for example, into an industrial zone and greatly impacted Chaco's Great North Road (which runs 35 miles northward from the site of Pueblo Alto, in Chaco Canyon) outside of the 10-mile zone. Other communities in the 10- mile zone have thus far seen less impact, and, for this reason, require the heightened protection that will come from a Federal mineral withdrawal.
Reed	Paul	Archaeology Southwest	Cultural resources	Chaco Canyon and the surrounding Greater Chaco Landscape constitute a living cultural and ancestral landscape of great spiritual significance to the 19 Pueblo Tribes of New Mexico, the Navajo Nation, Ysleta del Sur Pueblo, and the Hopi Tribe
Reed	Paul	Archaeology Southwest	Cultural resources	The Pueblos view archaeological sites across the Greater Chaco Landscape as an important part of their history, and continue to maintain ties to these archaeological sites and other traditional cultural places across this rich landscape. Pueblo ancestors lived and practiced ritual within the boundaries of CCNHP and across the Greater Chaco Landscape for thousands of years. Navajo residents of Greater Chaco have enduring ties to this landscape, as well, and the Navajo Nation identifies many traditional cultural places in the region.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Reed	Paul	N/A	Cultural resources	The significance and importance of the 10-mile zone revolves around its values- spiritual, archaeological, and scientific. Chaco Canyon and the surrounding Greater Chaco Landscape constitute a living cultural and ancestral landscape of great spiritual significance to the 19 Pueblo Tribes of New Mexico, the Navajo Nation, Ysleta del Sur Pueblo, and the Hopi Tribe. The Pueblos view archaeological sites across the Greater Chaco Landscape as an important part of their history, and continue to maintain ties to these archaeological sites and other traditional cultural places across this rich landscape. Pueblo ancestors lived and practiced ritual within the boundaries of CCNHP and across the Greater Chaco Landscape for thousands of years. Navajo residents of Greater Chaco have enduring ties to this landscape, as well, and the Navajo Nation identifies many traditional cultural places in the region. The 10-mile zone around Chaco contains more than 4,200 archaeological, historic, and sacred sites. These places were created by diverse groups-including Paleoindian, Archaic, Pueblo, Navajo, Jicarilla Apache, and others-in time periods from about 10,000 BCE to the present. Because less than 20 percent of the area enclosed by the 10-mile zone has been archaeologically surveyed, the number of cultural resources in the area is undoubtedly much higher. Chaco Culture National Historic Park and several outlying sites are UNESCO World Heritage Sites. The values associated with Chaco Park and the surrounding Greater Chaco Landscape make clear that much stronger protection is needed.
Reed	Paul	N/A	Cultural resources	Oil- gas activity has had a significant impact across this landscape, and specifically to the area around the Pierre's Community, which lies at the edge of the 10-mile zone. In fact, it is fair to say that oil-and-gas activity has transformed large portions of the Pierre's Community, for example, into an industrial zone and greatly impacted Chaco's Great North Road (which runs 35 miles northward from the site of Pueblo Alto, in Chaco Canyon) outside of the 10-mile zone. Other communities in the 10- mile zone have thus far seen less impact, and, for this reason, require the heightened protection that will come from a Federal mineral withdrawal.
				<p>The cultural resources that we remain connected to are located throughout the Greater Chaco Region. Some of the most critical and most threatened resources are those central to Chaco Canyon.</p> <p>These cultural resources surrounding Chaco Canyon are not always located within the boundaries of the national park. These may include not just archeological sites, but cultural resources not always identifiable by archeologists.</p> <p>These resources may include shrines, blessing places, pathways, springs, watersheds, or other natural features with archeological importance, but are cultural resources connected to Chaco Canyon, which is a part of our connection to the cultural landscape.</p> <p>With this understanding, the Department of Interior proposed the Administrative Withdrawal as a necessary action to protect Chaco Canyon and the many cultural resources that connect us to this sacred place. The 10-mile Withdrawal is necessary to provide the greatest protection feasible for future federal oil and gas development that is anticipated to occur closer and closer to the national park. This careful balance still allows development in areas of the highest foreseeable development outside of the 10-mile buffer.</p>
Smith	Richard	Pueblo of Laguna	Cultural	
Sprague	Shaw	National Trust For Historic Preservation	Cultural resources	Recent investigations have continued to identify a remarkable number of archaeological and historic sites. Surveys by Archaeology Southwest identified more than 4,000 archaeological and historic sites in the northern portion of the proposed protected area. These sites were created from about 10,000 BCE to the present. More sites remain to be identified, since less than 20% of the land within the proposed protected area has been surveyed. In addition, until very recently, little ethnographic work has been undertaken with any of the Tribes connected to this place. The Pueblo of Acoma and Archaeology Southwest began an ethnographic project in 2018. And the Chaco Heritage Tribal Association, consisting of Pueblo groups, and the Navajo Nation are currently engaged in cultural studies authorized by Congress in the Further Consolidated Appropriations Act of 2020. These efforts will undoubtedly increase the identification of Traditional Cultural Properties (TCPs) and additional cultural sites within the region.
Vicente	Randall	Pueblo of Acoma	Cultural resources	The BLM should be well aware that much of the past years' proposed and authorized oil and gas development lies within an important cultural landscape to the Pueblo of Acoma. Protests by Acoma, and various Tribes and organizations, led to the DOI unprecedented decision to defer its March 8, 2018 proposed lease sale that included 25 parcels covering 4,434 acres within Rio Arriba, Sandoval, and San Juan counties in northwestern New Mexico within the Greater Chaco Region. ⁵⁶ As part of site visits with the BLM prior to the deferral, Acoma representatives, including cultural experts, made observations that the parcels and surrounding landscape at issue needed comprehensive Class III inventories and further inspection by qualified Acoma cultural experts. Acoma representatives observed several archaeological resources not previously identified, including but not limited to a grinding stone mano, a rock shelter on and/or within very close proximity to the proposed parcels for sale. Additionally, experts noted that there were landscape features with archeological traces, including ancestral dry farming features, and known Chaco great houses very close by. ⁵⁷ Based on these limited observations it was clear that additional cultural resources would likely be identified upon fuller investigation. This expectation and concerns was communicated to the BLM that further surveys will identify significantly more archeological and cultural features important to the Pueblo. ⁵⁸ These observations are not isolated incidents. This site visit clearly demonstrates that Acoma's cultural landscape lies far beyond the borders of CCNHP and deserves great protection. ⁵⁶ See Bureau of Land Management, "BLM Defers Oil and Gas Lease Sale in New Mexico," March 2, 2018 Press Release, available at https://www.blm.gov/press-release/blm-defers-oil-and-gas-lease-sale-parcels-new-mexico . ⁵⁷ Id. ⁵⁸ Letter from the Pueblo of Acoma to Bureau of Land Management Farmington Field Office, "Re: Response to Bureau of Land Management - Farmington Field Office March 2018 Lease Sale, site visitation; Request for additional tribal consultation," at 2 (Feb. 28, 2018) (on file with the BLM Farmington Field Office and the Pueblo of Acoma).
Vicente	Randall	Pueblo of Acoma	Cultural resources	Acoma and the APCG have secured funding and are now conducting a broad Tribally-led cultural resource study of the Greater Chaco Region through the Chaco Heritage Tribal Association (CHTA). ⁵⁵ Acoma is a member of the CHTA along with the Pueblos of Jemez, Laguna, and Zuni and the Hopi Tribe. The CHTA is an unincorporated association of the five tribes, approved by each of their tribal councils. In November of 2020, CHTA was awarded a DOI grant to enable Tribal cultural experts to perform a Tribally-led ethnographic study and cultural resources investigation to identify culturally and historically significant areas and sites in areas of high energy development potential within the Region, with special emphasis to be given to areas of high development potential as defined in the BLM's February 2018 Final Report, "Reasonable Development Scenario of Oil and Gas Activities" for the Farmington Mancos-Gallup RMPA Planning Area. ⁵⁵ The Pueblos of Acoma, Jemez, Laguna, and Zuni and the Hopi Tribe have together formed the Chaco Heritage Tribal Association (CHTA), an unincorporated association of the five Tribal Nations, to accept a grant from DOI to carry out a tribally-led cultural resource study of the Greater Chaco Region. The Pueblos of San Felipe, Santa Clara, Tesuque, and Zia have self-identified to serve in supporting roles, and APCG has expressed its support of the CHTA's work. This study is designed to provide tribally-generated cultural resource data currently missing in the cultural resource documentation and guide DOI regarding major areas of concern in the Greater Chaco Region. It is focused on generating missing information about Pueblo-related cultural resources in the Greater Chaco Region necessary to enable DOI to comply with both the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA) in decision-making regarding oil and gas development in the Greater Chaco Region. However, each parcel-specific development decision DOI undertakes in the future will require tribal consultation and additional studies. The Navajo Nation was also awarded and entered into a separate grant to perform a study focusing on Navajo cultural resources. Through the study, CHTA plans to identify the cultural landscapes of each member Puebloffribe to gain a landscape-level awareness of the types and distribution of archaeological and non-archaeological cultural resources, including historic properties and traditional cultural properties, to which they maintain ties to assist the DOI in future National Environmental Policy Act or NHPA required assessment or review processes on the effects of major federal actions impacting Tribal interests, with emphasis on oil and gas leasing and mineral development.
Vicente	Randall	Pueblo of Acoma	Cultural resources	Acoma continues to maintain a strong cultural connection to the Greater Chaco Region. Since the first Acoma people "emerged" into this world, far to the North, their migration to the Pueblo's present home at Acoma, or Haak'u, was marked with stops at important locations in the Four Corners region, including Chaco Canyon, known by Acoma as Waarsa'ba'shaaka in our Keres language . ³⁰ The movements of the Acoma people between and among these locations have left myriad archeological sites and other cultural resources across the Region, "that lack recognizable archaeological signatures, [but] serve as reference points within Acoma's storied landscape." ³¹ Along this migration path, "[e]ven the smallest, seemingly most mundane trace of human activity relates both to the landscape of which Acoma's members are part and their cultural construction of identity." ³² Although for the Pueblo its core homeland is our modem-day landholding at Acoma, the places along our migration path although distant, "are all part of the ancestral homeland" to which we remain connected. ³³ ³⁰ Damian Garcia & Dr. Kurt F. Anschuetz, Movement as an Acoma Way of Life, at 39, THE CONTINUOUS PATH: PUEBLO MOVEMENT AND THE ARCHEALOGY OF BECOMING. (Amerind Studies in Anthropology Series, University of Arizona Press, Tucson) (Spring 2019). ³¹ Id at 45. ³² /d. ³³ Id at 50.
Vicente	Randall	Pueblo of Acoma	Cultural resources	Due to the significant lack of published literature and studies addressing Pueblo cultural resources, especially studies that incorporate the views of Acoma traditional practitioners, there are significant gaps in the data of known Pueblo and Acoma cultural resources in the Greater Chaco Region. Therefore, when federal managers permit oil and gas development in reliance upon non-Pueblo cultural resource managers to perform Class I or Class III National Historic Preservation Act (NHPA) inventories, there will inevitably be significant deficiencies in data that is produced. Acoma contends that unless qualified Pueblo experts are consulted at the time of the cultural resource inventories, no reliable conclusion can be drawn on the existence or non-existence of Pueblo cultural resources in any Class I or Class III survey. As a result, when ground disturbing activities related to oil and gas well development occur, there is significant potential for impacts to identified and unidentified cultural resources and eligible historic properties, including traditional cultural properties and cultural landscapes. Impacts may include, but are not limited to, visual impacts, auditory impacts, disruptions of pathways or pilgrimage trails, destruction of cultural resources, and any number of additional impediments to cultural practitioners' use of an area or cultural resources. ⁴⁸ Further, because many of these cultural resources may, upon further analysis be historic properties eligible for inclusion on the National Register of Historic Places, development may impact the integrity of location, setting, or feeling of a historic property. ⁴⁹ The withdrawal of these federal lands from future mineral development is, thus, existentially essential to protecting undocumented and documented sites. ⁴⁸ Acoma notes that the Chaco Heritage Tribal Association's scope of work for its study will provide additional information on the potential impacts of oil and gas development on the CHTA's member's cultural resources. ⁴⁹ See 36 C.F.R. § 60.4.
Vicente	Randall	Pueblo of Acoma	Cultural resources	In 2018, Acoma engaged in a small pilot project to better document the types of Acoma cultural resources surrounding Chaco. In this small project Acoma identified dozens of Acoma cultural resources that may be traditional cultural properties (TCPs) that may qualify as eligible historic properties under the National Historic Preservation Act. This was just the beginning as Acoma has not yet completed this pilot project and shifted its work to the federally funded Chaco study through the Chaco Heritage Tribal Association, discussed infra. Just from this small project, Acoma estimates there could be hundreds, if not thousands, of cultural resources, including TCPs, and other Tribal cultural sites and sacred areas that still have not been identified by federal agencies in the Greater Chaco Region. ²² Archaeologists have identified at least ten significant ancient Chacoan-Pueblo communities are known to lie within and just beyond the 10-mile zone around the CCNHP. These include the Bis san'ni Community, ²³ located a few miles northeast of Chetro Kettl, and the Pierre's Community, ²⁴ located up the Great North Road, at about the edge of the 10-mile protection zone. A linear community lies along the Ah-Shi-Sle-Pah road, which originates at Penasco Blanco and trends to the northwest for more than 25 kilometers (19 miles). Most of this linear ancient community lies within the 10-mile protection zone. Additional Chacoan communities within the 10-mile zone include Casa del Rio, ²⁵ Bee Burrow, ²⁶ Kin Indian-Escavada-Greasy Hill, Greenlee, ²⁷ Indian Creek, ²⁸ Mesa Tierra, ²⁹ and Tse Lichii'. While these sites, identified by archaeologists, are significant and important to Acoma, we know there is a further multitude of cultural resources Acoma relies on that cannot be identified by archaeologists. ²³ The ancient Pueblo community at Bis san'ni comprises at least 40 sites in a roughly 4 km-square or roughly 1000-acre area. Other groups, including Archaic period peoples and Navajo residents, have contributed sites to the community total of about 60. This community lies about 5 miles northeast of Pueblo Bonito. The core of the site is a Chaco great house with about 40 rooms and 5 kivas. Pueblo sites in the community around Bis san'ni contain about 50 rooms and several kivas. In addition, the community contains resource procurement sites and other sites of limited use. ²⁴ The Pierre's site complex is the largest community on Chaco's Great North Road. Pierre's contains three small Chacoan great houses with perhaps 50 total rooms, single and second-story, and several kivas. The community also incorporates a watchtower-like feature called El Faro (the lighthouse). In the community around Pierre's core, at least 75 rooms are present at numerous small pueblo habitation or field house sites. Additional sites include artifact scatters, the Great North Road, and rock features. Additional discussion of Pierre's is provided below ²⁵ Casa del Rio lies along Chaco's West Road and comprises a great house with perhaps 140 rooms and several large, dense midden areas. An ancient reservoir lies south of the great house. The community around Casa del Rio is largely unknown, due to the lack of archaeological survey. ²⁶ Bee Burrow is a small Chacoan great house with 11 rooms and 2 kivas located south of Pueblo Bonito and the Park boundary. Chaco's South Road passes by the site to the east. Petroglyphs are present along a cliff face southwest of the great house. The community surrounding Bee Burrow is poorly understood but contains dozens of small pueblo sites and perhaps 500 total rooms. ²⁷ Greenlee lies southeast of the Chaco park boundary and consists of a Chacoan great house with 15 rooms and one kiva. It sits on a low mesatop. A Chacoan road segment run to the east of the site. A probable community of small sites surrounds Greenlee but its nature is unclear due to limited archaeological investigation. ²⁸ The Indian Creek community lies west of Chaco and includes two small Chacoan great houses -Casa Cielo and Casa Abajo - and a community of 20 small pueblo sites with over 100 rooms. In addition to the communities listed above, there are others-clusters of sites that may constitute distinct communities and have not yet received detailed examination. ²⁹ Mesa Tierra is a Chacoan great house with 30 rooms and 5 kivas located southwest of Pueblo Bonito. The site was built on a mesa top and includes a small community of surrounding sites with perhaps 20 additional rooms.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Vicente	Randall	Pueblo of Acoma	Cultural resources	The 10-mile protection zone proposed for withdrawal in the Greater Chaco Region surrounding Chaco Culture National Historic Park contains roughly 4,200 known archaeological and historic sites that date from roughly 10,000 BCE to the present. ²¹ Because less than 20 percent of the area enclosed by the 10-mile zone of protection has been surveyed, the actual site count is undoubtedly much higher. 21 Paul F. Reed, "An Archaeological Reconnaissance of Chaco's 10-Mile Zone of Protection," Archaeology Southwest September 2020. ("To better understand the nature and extent of cultural resources in the 10-mile zone, Archaeology Southwest undertook a reconnaissance project focusing on the northwest, north, and northeast portions of the 10-mile area. A primary goal of the work was to identify or confirm cultural communities in the 10-mile zone, with the main criterion being spatial proximity. In several cases, the mix of sites across time periods was substantial. For these areas, then, the geographically proximate sites were not described as discrete communities, but rather as site clusters. Further work will allow greater parsing of the spatial and other data to delineate additional, temporally and culturally distinct communities from the past. A larger objective in this work is connected to the currently ongoing RMPA and EIS planning process undertaken by the BLM and the Bureau of Indian Affairs (BIA). This goal involved looking at the Greater Chaco Landscape in a new manner, at a different scale than is usually pursued by the Agencies. Typically, Federal Agencies in the western United States treat cultural sites as single phenomena during the Section 106 process. Thus, archaeological contractors identify sites or TCPs during projects, and the projects are redesigned, in most cases, to avoid the resources by 50-100 feet. In rarer cases, such as higher or road construction projects or oil-gas pipelines, the decision is made to conduct test excavations to mitigate effects on the cultural resources. This primary avoidance policy has spared many cultural resources from outright destruction but has also resulted in a highly fragmented cultural landscape across many places of the American West, and in particular, across the Greater Chaco Landscape. As a result, many indirect and cumulative effects have built up across Greater Chaco, as the ancient Chacoan-Puebloan landscape has been slowly but persistently in-filled by the industrial infrastructure of the oil-gas industry.")
Vicente	Randall	Pueblo of Acoma	Cultural resources	While there are numerous archaeological resources relating to Acoma ancestors throughout the sacred landscape of the Greater Chaco Region, many of the cultural resources of great importance to the Acoma and other Pueblos are not necessarily archaeological in nature. In repeated consultations with DOI and the BLM in related undertakings, Acoma has always presented a guiding principle to assist the DOI and BLM to understand this point: for Acoma all ancestral Pueblo archaeological resources are cultural resources, but not all cultural resources are archaeological in nature. These non-archaeological resources, equally important in their cultural and spiritual value to Acoma, include traditional cultural properties and sacred sites, such as shrines, springs, plant and mineral gathering places, viewsheds, and other important natural features and sites. Such resources typically cannot be identified by archaeologists, but only by Pueblo traditional practitioners. Acoma's traditional practitioners have unique understandings of the Region's cultural resources. Compounding the difficulty federal land managers face in attempting to accurately identify Acoma cultural resources is the fact that there is almost no history of DOI, through the BLM or otherwise, coordinating with Acoma or other Pueblos on cultural resource surveys in the Greater Chaco Region. As a result, there exists a void of ethnographic information pertaining to the Pueblos' shared and individual unique cultural resources in the Greater Chaco Region, including Acoma's. This means that, when DOI reviews existing documented data prior to deciding whether to move forward with development-for example, whether to hold a lease sale-Pueblo cultural resource data is sorely lacking from the record available to DOI for review. As a result, the DOI necessarily and inherently will fall short in accounting for our sensitive interests within that data review process.
Vicente	Randall	Pueblo of Acoma	Cultural	This preservation of the cultural resources in the Greater Chaco Region should not be limited to the park, nor to archeological sites. The cultural resources, lands, and natural features extend throughout the Greater Chaco Region, and are part of the larger or broader and interconnected cultural landscape
				The Withdrawal of the full 10-mile area is specially important because of the many cultural resources in this area that have not been adequately studied and documented. Acoma and other Pueblos are still in the process of completing a broad Cultural Resource Study, with studies to identify some of the cultural resources and sensitive areas in that Greater Chaco Region. Acoma is a member of the newly formed Chaco Heritage Tribal Association, also comprised of the Pueblos Jemez, Laguna, Zuni, and the Hopi tribe. In November of 2020, CHTA was awarded a U.S. Department of Interior grant to enable tribal cultural experts to perform a unique tribally-led Ethnographic Study, to identify culturally and historically significant areas located within areas of high energy, and development potential within the Greater Chaco Region. The Pueblos advocated for this study from Congress for many years before being awarded the funding, and we're still today hoping for that. Those of you that sit before us who represent BLM, we hope that you take some of our words and concerns back with you. I will be glad to repeat some of these, and also share my comments with you, as I had mentioned earlier. This federally-funded study is critical because there is almost no history of federal agencies coordinating with Acoma or other Pueblos on Cultural Resource Surveys in the Greater Chaco Region. Thus, there is a void of ethnographic information pertaining to what the Pueblos share, and the individual and unique cultural resources in the Greater Chaco Region, including Acoma.
Vicente	Randall	Pueblo of Acoma	Cultural	This information is critical for federal agencies to consider during the process of oil and gas lease permitting, the development process, as well as during Land Management decision-making like that of the RMPA.
				In 2018, Acoma engaged in a small pilot project to better document the types of Acoma cultural resources surrounding Chaco. In this small project, Acoma identified dozens of Acoma cultural resources that may be traditional cultural properties, TCPs, that qualify for protection under the National Historic Preservation Act. This is just the beginning, as Acoma has not yet completed the pilot project, and shifted its work to the federally-funded Chaco study. Just from this small project, we estimate that there could be hundreds, if not thousands of cultural resources, including TCPs and other cultural sites and sacred areas that have not been identified by federal agencies in the Greater Chaco Region. As an example, during the BLM Farmington Field Office's March 2018 lease sale, the BLM made the unprecedented decision to postpone the lease sale after we protested, because there were clearly cultural resources that needed further identification and study. At past site visits, prior to the deferral, Acoma representatives, including cultural experts, made observations that the parcels and surrounding landscape at issue needed comprehensive Class 3 inventories, and further inspection by qualified Acoma cultural experts. At that time representatives observed Acoma cultural resources that had not been identified by the BLM.
Vicente	Randall	Pueblo of Acoma	Cultural	These observations are not isolated incidents. These examples clearly show Acoma's cultural landscape lies beyond the borders of the park and deserves greater protection.
Aguilar	Melvina	Santo Domingo Pueblo	Tribal interests	Many tribes, including my own, hold Chaco Culture National Historical Park as sacred. We have ties not only to Chaco itself, but to the land and to the sites on the surrounding land. Due to these beliefs, protecting Chaco and the surrounding lands are extremely important.
Allapowa	Chad	Zuni Pueblo (A:shiwí)	Tribal interests	the damages from trucks, explosions and digging will do irreparable damage to our land which is surrounding our historical site. Not only historical but religious site. This area is irreplaceable to us.
Beasley	Allyson	Western Environmental Law Center	Tribal interests	The Section 106 regulations dictate how BLM must assess adverse effects to historic properties from Mancos shale development. The regulations define an "adverse effect" as: when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. 36 C.F.R. § 800.5(a)(1). This definition includes not only direct effects from the undertaking, but also "reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative." Id. Adverse effects to historic properties are not limited to direct effects which result in physical destruction or alteration of a property, but also include the following: - Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance; [and] - Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features Id. at § 800.5(a)(2). Mancos shale development has the potential to cause these types of adverse effects to the Park, World Heritage Site, Outliers, and the North Road. The "Petition to Designate the Greater Chaco Landscape as an ACEC" attached to prior earlier, scoping comments summarizes the air quality, visual, noise, and seismic effects that Mancos shale development could have on these fragile historic properties. BLM must consider all of these impacts, and determine whether they will adversely affect landscape-level historic properties that are part of the Greater Chaco Landscape. ³²⁷ 327 In addition, BLM should ensure that it is not violating the requirements of the Religious Freedom Restoration Act of 1993, codified at 42 U.S.C. § 2000bb through 42 U.S.C. § 2000bb-4 ("RFRA"). The Greater Chaco is an active religious site. RFRA and the cases that followed it require the federal government to make a convincing showing of compelling government need in order to curtail religious expression. Intrusion of drilling and overall degradation of this area is a knowing restriction by BLM of the religious rights of those for whom the Greater Chaco is sacred. See also https://www.azmirror.com/2022/01/19/native-activist-found-not-guilty-in-border-protest-after-new-arguments-on-religious-freedom-defense/ for discussion of a recent RFRA case which, although not directly analogous to the intrusion of fracking in Greater Chaco, provides worthwhile insights on potentially-relevant applications of RFRA in 2022.
Begay	Grace	N/A	Tribal interests	I, Grace N. Begay, is responding about my feelings about my great, great grandfather's allotment 832. I am very fond of the memories from my childhood: roaming the canyon herding sheep and other activities that took place. I remember his dwelling made out nicely cut stones, evenly built roof that was leveled to dry out his crops (corn, squash, and other vegetables for winter storage). My heart aches when I heard that the house was demolished by the National Park without the knowledge of his inherits, and there was no consensual agreement to do so. We are Indigenous citizens of this great continent. All of the Newton grandchildren were born in this allotment our umbilical cords are buried there. The family goes as stated: the daughter of TahBeKin Walo is Bah Yazzie Newton. Bah Yazzie had two husbands, Dan Cly then Roy Newton. The descendants of Bah Yazzie and Dan Cly are Helen Cly Newton and Joe Cly. Helen Cly Newton is my mother. Then, Bah Yazzie was with Roy Newton, they both had six children: Marion Newton Billiman (deceased), Emma Newton Delgarito (decease), Sadie Newton White (decease), Lloyd Newton (decease), David Newton (living), and Betty Newton Yazzie (living). Then my mother, Helen, married Roy Newton. Together, they had seven children: Evelyn Newton Begay (deceased), Lorraine Newton Yazzie (living), Grace Newton Begay (living), Nita Newton (living), Hazel Newton Pine (decease), Walter Newton (living), and Carolyn Newton (living). This is sacred to our tradition if tampered it is a taboo to the other parties. Hosteen TahBeKin Walo (Old Man that lives by the water) Allotment 832 Hogan. Great grandfather stone build house was dismantled by the National Monument by summer student who was involved and did not realize that it was his great-great grandfather dwelling. The Hogan was sitting approximately two miles from allotment 832. I, Grace N. Begay, was born in the hogan as well. The hogan was also dismantled. My uncle, father, and other close relatives have maintained the ruins year after year. Uncle Joe kept the road clear for tourists until he retired. One of Hosteen TahBeKinWalo daughter (sister of BahYazzie Newton) accidentally was buried by the coal slide. She remained there, the grave is not to be disturbed. There should be a public hearing with all the inherits instead the National Park Services Bureau of Indian Affairsand our own Navajo Nation telling us put our "X" right here, just like during the Long Walk days. As they did to the Indigenous citizen suffer long enough. In my conclusion, the family all agree we oppose selling or exchange our land. This is my feeling and response I am sure a lot of the off-spring still not understand due to the dominant language, English.
Benally	Aw	N/A	Tribal interests	Once the secretary of the Interior was recommended by the president and approved by congressional leadership, it distinctly appears but her first ball in the basket it was to make sure that Chaco Canyon and its surrounding land could be designated off limits to our Navajo people! This based on what she has been known to say at this National Park it's ancestral land for the Acoma pueblos and they continue to use ground for prayer prayers and ceremonies. However, she fears that the drilling of mineral fuels would disrupt the sacredness of Chaco where perpetually the echo must hold their rituals! This grab of allotted land surrounding Chaco seems like another potential Navajo/Hopi land dispute where the Navajo people were tragically removed from their place of birth, their entire home sites including lot livestock were confiscated! This is what the interior secretary is investigating??? We do not need another round of this type of displacement for our allottees! Chaco Canyon has already had an act for protection designating the boundaries, YET can you please listen to her tribe Deb Haaland has seen fit to listen only to the Navajo man Daniel to sow and his environmentalist cohorts to extend the buffer zone beyond five miles to 10 or 20 miles! This, all to protect the skeletal remains of in Anasazi and their ruins which already is! As a Navajo elderly woman, I remember the words of Nali grandpa who was a Navajo traditional practitioner of the blessing's way ceremonies. He'd tell us never go near any Anasazi ruins it's not good for us and costly to have the adverse effects removed from us. I'm by no means a person with scientific knowledge but again remembering Nali I never heard him sing traditional songs and say traditional prayers that said Chaco canyon is sacred he'd sing of the four sacred mountains of the birds, horses, sheep and herbs and plants.
Boone	Cora	N/A	Tribal interests	As a tribal member, I urge you to make the proposed withdrawal a reality. Preservation of our sacred place will provide blessings to all.
Bowannie	Chantel	Zuni Pueblo	Tribal interests	Chaco Culture National Historic Park; and the land surrounding it; is sacred and important to many. The land bears medicinal plants, is home to many of our native animals, and also carries the memories of our ancestors who have visited and lived on the land. These plants and wildlife are used in ceremonies by many of the culturally affiliated tribes. Any negative impact to the plants, land and wildlife are passed along to those who rely upon them.
Bowekaty	Carleton	N/A	Tribal interests	My tribe has provided technical comments in support of this withdrawal. I offer this letter as personal support and testimony to the effectiveness of our ancient old ways of life in the very modern world of today. The United States Government can assist my tribe by continuing with this withdrawal, as a small gesture, for the sacrifices my people made to effectuate the government to government process we uphold today.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Brown	Dave	DJR Operating, LLC	Tribal interests	While DJR has a small percentage of our total leasehold within the proposed 10-mile buffer, we are concerned about the negative precedent this action establishes for multiple use on federal lands, the impact on allotted mineral rights, and does not acknowledge the preferences of the Navajo Nation for a 5-mile buffer zone around Chaco Historic Park. DJR believes the rights of the allottees within the 10-mile buffer should be maintained to allow them the ability benefit economically from potential mineral development. This proposal, while indicating existing rights will be honored, does not recognize checkboard land ownership which will leave their allotments stranded without the ability to benefit their mineral rights.
Chuyate	Rolena	N/A	Tribal interests	The Chaco Culture National Historic Park and the lands surrounding it bear deep significance connection for the Ashiwi (Zuni) people. This place is tied to our ancestor’s migration story of finding the middle place called Idiwana, which is currently where the Ashiwis reside. Chaco Canyon known to the Ashiwis as Heshoda Bitsuliya is where our ancestor’s spirits dwell, and their spirits should not be disturbed by the impact of drilling or any development.
Delena	Breanna	Zuni Pueblo	Tribal interests	Chaco Culture National Historical Park provides a unique and valuable opportunity for us to interact with our past. Not only are we able to visit and wonder at the feats of architecture built by ancient Puebloans, but we are able to venture inside some of the great houses. This allows for direct experiences with the past. This is a valuable opportunity for all who visit the park.
Fleg	Shannon	N/A	Tribal interests	I am merely one person who has a deep connection to these sacred lands as a Native American Indian matriarch. Like the more than thousands of other Native American Indian people, I have a strong connection of religious, ceremonial, and spiritual connection to the Chaco Canyon area. 2) The Chaco Canyon area has been a 'long-term protected site' and I would like to see it remain in this state for the historical site and sacredness of the land to respective tribal land keepers of the area. 3) I truly believe that these sacred lands are a great reminder of ancestral connection to our Native American Indian generations, and how our younger generations are now land keepers and protectors. Such that my children are benefiting to seeing how spiritual connections remain with Mother Earth.
Fortner	Terri	Board of County Commissioners of San Juan County, New Mexico	Tribal interests	WHEREAS, President Joseph R. Biden Jr. has proposed a 20-year ban on federal mineral leasing within a 10-mile radius of Chaco Culture National Historical Park, for a total withdrawal of approximately 351,000 acres; and WHEREAS, despite the Biden Administration's statement that the ban does "not apply to Individual Indian Allotments or to minerals within the area owned by private, state, and Tribal entities" and will not "impose restrictions on other developments, such as roads, water lines, transmission lines, or buildings", the mixture of property ownership between federal and non federal land in the proposed ban area makes it impossible for owners of Individual Indian Allotments to extract minerals since pipelines must cross federal land (where extraction would be banned) to get to Allottee land (where extraction is not banned); and WHEREAS, the Bureau of Land Management (BLM) and the Bureau of Indian Affairs (BIA) were actively seeking comments from the public on alternatives for a Resource Management Plan Amendment / Environmental Impact Statement for the Chaco Culture National Historical Park area, which alternatives included the 10-mile buffer and a 5-mile buffer, however, the Biden Administration's proposal indicates that a 20-year withdrawal of federal lands within 10-miles of Chaco Culture National Historical Park may be initiated without waiting for proper consultation and comment from affected parties; and WHEREAS, On January 23, 2020, the Navajo Nation Council withdrew its support of a 10-mile buffer zone surrounding Chaco Culture National Historical Park, instead approving language supporting a 5-mile federal buffer that would provide additional protections to sacred cultural sites, while still allowing allottees to develop their mineral estates beyond the 5-mile buffer area; and WHEREAS, in a press release date November 16, 2021, the Navajo Nation Council reaffirmed its opposition to the Biden Administration's proposal of the 20-year ban on oil and gas drilling on federal lands within a 10-mile radius of Chaco Culture National Historical Park; and WHEREAS, the Eastern Navajo Agency Council of the Navajo Nation passed Resolution No. ENAC-12/2021-063, strongly opposing President Biden's proposal of a 20-year ban on oil and gas development of federal lands within a 10-mile radius of Chaco Culture National Historical Park on December 4, 2021; and WHEREAS, the Nageezi, Pueblo Pintado, Huerfano, Lake Valley, and White Rock Chapters passed resolutions in 2021, all of which stated opposition to a 10-mile buffer area but support of a 5-mile buffer. WHEREAS, the Board of County Commissioners supports the opinions of the Navajo Nation and affected chapters and their concern for the economic welfare of constituents who live in the area who would be affected by the proposed withdrawal of federal lands from mineral development. NOW, THEREFORE, BE IT RESOLVED that the Board of County Commissioners of San Juan County, New Mexico, strongly opposes President Biden's Proposal of a 20-year ban on oil and gas development on federal lands within a 10-mile radius of Chaco Culture National Historical Park.
Glaserapp	Logan	New Mexico Wild	Tribal interests	According to NPS, there are several significant cultural locations within CCNHP that are susceptible to visual and auditory impacts from oil and gas development within the park's viewshed, including Penasco Blanco, Pueblo Alto, Pueblo Pintado, and Tsin Kletsin.23 Pueblos and Tribes that access and use these sites for traditional purposes have expressed concern for "the broad effects from oil and gas development that result in an altered landscape where individuals are no longer able to complete early morning prayers, night observances, or other ceremonies due to the impaired visual and auditory setting."24 ACHP has raised identical concerns: Chaco also is a place of transcendent spiritual and traditional cultural importance to Indian tribes of the region. Many Pueblos and Indian Tribes in the Four Corners region recognize that the Chaco Culture area is rich with sacred sites of utmost importance to them. The threats posed by continued development are not merely physical impacts on historic properties; they can impair the traditions and tribal way of life that has endured for centuries.25 23 Letter from Lawrence T. Turk, Superintendent, Chaco Culture National Historical Park, to Lindsay Eoff, Project Manager, BLM 2 (May 29, 2013). 24 BLM, Farmington Mancos-Gallup Draft RMPA/EIS, Appendix H-2 (Feb. 2018). 25 Letter from Milford Wayne Donaldson, Chairman, ACHP, to Rep. Grijalva & Rep. Bishop, House Natural Resources Committee 1 (Apr. 30, 2019).
Goetz	Rusty	N/A	Tribal interests	The Pueblo tribes of the Four Corners states are rediscovering their histories and that is to be encouraged, but having once decided to abandon the area (for whatever reason), what is their real claim on it today? Is it on the ruins themselves, on the way the history is told, or who is allowed with the park boundaries? The Dine and the Apache tribes have no direct connection to the ruins except for the fact the Federal government defined their reservation boundaries and the park usage affects their land use and income both directly and indirectly.
Heinle	Janet	N/A	Tribal interests	The proposed ban on new oil and gas development builds on years of bipartisan efforts by Pueblos and other tribesincluding the All Pueblo Council of Governors, representing 20 Pueblo nations in New Mexico and Texaslocal communities, and conservation advocates to permanently protect the Greater Chaco Landscape. The withdrawal area would protect public lands containing over a dozen Chacoan great house communities, ancient roads, and thousands of cultural resources.
Lowden	Morris	N/A	Tribal interests	My name is Morris Lowden, member and previous councilman for Pueblo of Acoma. I wish to express my support to finally and permanently withdraw the sacred site of Chaco from any further disturbance. My tribe along with other tribal nations have long held this sacred place in honor. Each of us still make pilgrimages to this holy place to petition the spirits that still dwell there, for help and guidance for a better world. As my generation begin to get older, we want to leave this sacred place undisturbed for many future generations that will come after us.
Meissner	Lisa	Santa Clara Pueblo	Tribal interests	In recent years, however, some within the Navajo Nation have broken with the previously established Navajo position in favor of the Chaco withdrawal. They have expressed concerns that the withdrawal could affect allottees' development rights. The Pueblos have sought a government-to-government meeting with the Navajo Nation to address these issues, but our requests have not been answered.46 46 See, e.g., Letter from Mark Mitchell, Chairman, All Pueblo Council of Governors, to Jonathan Nez, President, Navajo Nation (Feb. 10, 2022) (requesting meeting and access to Navajo land for Tribally-led cultural resource study); Letter from Wilfred Herrera Jr., Chairman, All Pueblo Council of Governors, to Jonathan Nez, President, Navajo Nation, and Seth Damon, Speaker, Navajo Nation (Apr. 15, 2021) (requesting meeting to discuss continued partnership to protect Greater Chaco Region); Letter from J. Michael Chavarria, Chairman, All Pueblo Council of Governors, to Jonathan Nez, President, Navajo Nation, and Seth Damon, Speaker, Navajo Nation (Jan. 30, 2020) (same). It bears emphasizing that the Pueblos have never strayed beyond the agreed-upon protections that we mutually committed to with the Navajo Nation. The Pueblos do not and have never advocated for withdrawing other Tribal Nations' land or Native people's allotment land from development, and we have supported all efforts to make clear that a withdrawal would not prevent Tribal or allottee land owners from developing on their land. Further, we have limited our requests to withdraw federal land to only a small, critical area of the Greater Chaco Region. As the entire area is a sacred landscape, we view withdrawal of the 10-mile withdrawal area as a minimum. The proposed DOI Chaco administrative withdrawal of public lands within the 10-mile withdrawal area surrounding the CCNHP and including its outliers is consistent with and appropriately builds on the original government-to-government understanding of the Pueblos and the Navajo Nation.
Mitchell	Mark	All Pueblo Council of Governors	Tribal interests	there is now a break within Navajo regarding the proposed withdrawal and the 10-mile buffer, altogether. Some allottees have expressed concern that removal of federal land from oil and gas development would isolate their parcels and make them unattractive to developers, and some Navajo Council Delegates have now adopted this messaging. However, an examination of the land ownership map shows that the vast majority of allotments located within the withdrawal area are not surrounded by federal land and are instead adjacent to other allotments or tribal lands or otherwise next to ongoing development on federal land that would not be stopped by the withdrawal. The Pueblos, via APCG, have formally requested a government-to-government meeting with the Navajo Nation Council and President's Office to discuss Navajo's involvement in designing the nuanced cultural resource protections, including building in protections for allottees' development rights, but APCG's requests have not been answered. See, e.g., Letter from Mark Mitchell, Chairman, All Pueblo Council of Governors, to Jonathan Nez, President, Navajo Nation (Feb. 10, 2022) (requesting meeting and access to Navajo land for tribally led cultural resource study); Letter from Wilfred Herrera Jr., Chairman, All Pueblo Council of Governors, to Jonathan Nez, President, Navajo Nation, and Seth Damon, Speaker, Navajo Nation (Apr. 15, 2021) (requesting meeting to discuss continued partnership to protect Chaco); Letter from J. Michael Chavarria, Chairman, All Pueblo Council of Governors, to Jonathan Nez, President, Navajo Nation, and Seth Damon, Speaker, Navajo Nation (Jan. 30, 2020) (same); see also Letter from E. Paul Torres, Chairman, All Pueblo Council of Governors, to Exec. Dir., Off. of Legis. Servs., Navajo Nation, and Seth Damon, Speaker, Navajo Nation (Dec. 11, 2019) (providing testimony on Navajo Legislation No. 0366-19); Letter from E. Paul Torres, Chairman, All Pueblo Council of Governors, to Exec. Dir., Off. of Legis. Servs., Navajo Nation, and Seth Damon, Speaker, Navajo Nation (Dec. 11, 2019) (providing testimony on Navajo Legislation No. 0366-19).
Nez	Jonathan	The Navajo Nation	Tribal interests	The Navajo people's cultural ties to the area are being completely ignored while much emphasis is being placed on Pueblo ties to this area. Chacoans abandoned this area hundreds of years ago. Today, this project seems to be an exercise by the federal government to try to reestablish rights for other tribes to lands occupied by the Navajo people. It is not the duty of the federal government to initiate disputes between tribes. The Navajo Nation had painful experiences in the State of Arizona in the form of Joint Use Area and Bennett Freeze Area. The Navajo Nation requests that the DOI and its federal partners not start another land dispute by establishing a Chaco Withdrawal Area or attempt to establish rights for other tribes to these areas where Navajo people live.
Nichols	Deborah	The Society for American Archaeology	Tribal interests	the SAA supports the proposed rule, provided that (1) adequate and effective government-to-government consultation between the BLM, the Navajo Nation, and other concerned Native American tribes has taken place, and (2) because Navajo allotments are scattered throughout the proposed withdrawal area, and the Navajo allottees rely on income generated from development on their lands to support their families, the tribal allotments within the withdrawal area are not affected by the withdrawal as proposed.
Pacheco	A Leo	N/A	Tribal interests	Will the decisions being made for the buffer zone have a knowledgeable Navajo that will not be undermined about the Land withdrawal?
Parks	Tripp	Western Energy Alliance	Tribal interests	The agency also has a fiduciary obligation to manage allottee minerals as trust assets. BLM's Handbook on "Improving and Sustaining BLM-Tribal Relations (H-1780)" and Manual titled "Tribal Relations, (MS-1780)" recognize "the ongoing BLM operational and fiduciary responsibility concerning Indian tribal trust minerals and other resource development on Indian trust lands." The Handbook also states that "the general goal is to maximize economic gain for tribes/or allottees...BLM employees should be aware that revenues from minerals might be the only income for an individual Indian beneficiary."
				One of those things that I would like to highlight for you is we heard this phrase used before; that we are people based in the land. Our origins are based in that cultural landscape concept. We have origin stories that take us to specific places on the landscape. We have places identified in movement and migration. These are our stories. What comes out of that, that I think is key for the Department of Interior to hear, is that those set the foundation for key concepts related to kinship and identity that are critical to our Pueblo and tribal communities. You've heard people express themselves in their traditional language; identifying themselves, their clans, what families they come from. They properly greeted you and others in the room in that traditional language. Those are all things that are based in the land, based on those stories and those responsibilities that were set forth in those original origin stories as the first people settled onto this land.
Pasqual	Theresa	Pueblo of Acoma	Tribal intrests	
Schmidt	Diane Joy	N/A	Tribal interests	George Werito, President, Ojo Encino Chapter and the Tri-chapter Alliance, which includes Counselor, Ojo Encino, and Torreon, has called out for years for attention from the federal government to the effects of the active drilling on communities next to Chaco. Werito said that he supported the Chaco withdrawal, but he wanted to confront problems already caused by drilling. He pointed out that the drilling may benefit some individual allottees there, but not the community. "I'm against more drilling," he said. "Things are really booming in my area. They don't actually consult the community. Most of the work is being done (with approvals) by the BLM." Werito also laid blame on Window Rock.? "Roads are the big issue," he said. "Every day where we have school bus routes, the oil field trucks are speeding. They take over, they don't respect rights of ways. How are you going to help us? Allottees are getting money off the royalties, money goes to the state and federal, but as a community, no." Noting the deliberate way the land was broken up into checkerboard areas to weaken Native control, he said, "There is trust land, fee land, BLM, state, Indian allotments. You have to be there to understand the situation. We need to be treated better. If you're going to drill, can I get water, new roads, build us some infrastructure?" The roads, which have never been good, have become pitted with dangerous potholes from the heavy trucks using them.
Tully	Thurma	N/A	Tribal interests	The purpose Chaco Public lands withdrawal is not in the best interest of Navajo allottees and Navajo Nation as a whole, this is because for many reasons. 1st when I traced in the Eastern Navajo Agency when there is a mineral development the quality of life for Navajo have increased . 2nd This withdrawal is far fetching its larger than what is proposed plureits.
Watson	Rebecca	Enduring Resources IV, LLC	Tribal interests	BLM's guidance on working with tribes makes the important point that BLM has a fiduciary obligation to manage allottee minerals as trust assets. The BLM's Handbook, "Improving and Sustaining BLM-Tribal Relations (H-1780)" and Manual, "Tribal Relations, (MS-1780)" recognize "the ongoing BLM operational and fiduciary responsibility concerning Indian tribal trust minerals and other resource development on Indian trust lands." MS-1780. BLM minerals personnel must understand that the Indian trust programs are part of BLM's mission, and that BLM is not merely doing BIA's job. The trust functions were delegated to BLM by the Secretary or were established by law. This puts BLM in the role of a fiduciary, and the BLM has the responsibilities of a fiduciary in managing trust assets and making decisions that may impact trust assets. H-1780. The BLM Handbook goes on to direct, "The general goal is to maximize economic gain for tribes/or allottees. . . BLM employees should be aware that revenues from minerals might be the only income for an individual Indian beneficiary." H-1780. Emphasis added. Under the fiduciary duties that Interior, BLM and BIA have to the Allottees, Interior must "to the maximum extent possible" "protect" Allottee interests and respect "the right of the [Navajo Nation Council] to make important decisions about their own best interests." Secretarial Order 3335.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Watson	Rebecca	Enduring Resources IV, LLC	Tribal interests	Despite the Biden administration's early commitment to "respect for Tribal sovereignty and self-governance," "robust consultation," when "federal officials speak with and listen to Tribal leaders in formulating federal policy that affects Tribal Nations," 5 in the instance of the Chaco Withdrawal, consultation with, and respect for, the views of the Navajo Nation Council and Navajo Allottees has been utterly lacking. 5 White House, "Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships" (January 26, 2021) ("WH Consultation Memo). See also, Secretary Haaland, Department of the Interior, "A Detailed Plan for Improving Interior's Implementation of EO 13175," (April 2021) ("Tribes are sovereign entities with indigenous perspectives and knowledge that can improve the quality of Federal decisions and result in better outcomes for all affected communities. Tribal consultation offers a means for weaving Tribal input into our decision-making processes.")
Watson	Rebecca	Enduring Resources IV, LLC	Tribal interests	In light of their well-publicized position, it is inexplicable that the Secretary did not recognize the Navajo Nation's opposition to the Withdrawal at the November 2021 Withdrawal announcement and that the Department, in the words of Navajo elected leaders, has "bypassed any true tribal consultation with the Navajo Nation." See also Enduring Exhibit 1. To adhere to its consultation and trust responsibilities to the Navajo Nation and Navajo Allottees, the Secretary and BLM must respectfully consider and adopt the Navajo Nation Council's five-mile proposal.
Winchester	Jim	Independent Petroleum Association of New Mexico	Tribal interests	Based on IPANM's engagement and involvement with both industry, Navajo Allottees, and the Navajo Nation Council, it is clear the DOI has not adequately considered a Compromise Proposal that calls for a 5-mile buffer instead of the 10-mile buffer covered under the current withdrawal. Foremost, it must be understood to DIO that Navajo Allottees do not share opinions of environmentalists, demonstrators, and special interest groups' objections on natural resources developments. The Navajo Allottees are the impacted people of the Chaco area. These lands were patented and allotted to the Navajo People in New Mexico and handed down through many generations. These lands were given in exchange for land taken by the U.S. Government in exchange for citizenships. Therefore, as Navajo People being landowners, they have the right to lease, develop, or excavate their lands. Likewise, the Navajo Allottees have collaboratively worked with Navajo Nation Council to support the Compromise Proposal five-mile buffer. On November 25, 2019, the Resources Development Committee of the Navajo Nation Council supported a resolution, by an 18-1 vote, withholding approval of the federal legislation by the Navajo Nation until the buffer is reduced to five miles. The Navajo Nation officially communicated its change in position to the leadership of the Senate Energy Committee on March 5, 2020, which has been recognized by BLM. Given the consensus of those most impacted, IPANM strongly believes the DOI Secretary did not adequately recognize nor account for the Navajo Nation's opposition to the Withdrawal at the November 2021 Withdrawal announcement. To adhere to its consultation and trust responsibilities to the Navajo Nation and Navajo Allottees, the Secretary and BLM must respectfully consider and adopt the Navajo Nation Council's five-mile proposal.
Yazzie	Venaya	N/A	Tribal interests	Chaco Canyon is a sacred site to many of the southwest indigenous people including the Pueblo, Navajo, Hopi and Zuni tribes. Chaco Canyon and the surrounding area is a cultural landscape that is a highly established area of past and present spiritual and ceremonial used by modern indigenous people of the southwest. There exists a plethora of distinct and unique oral histories concerning Chaco Canyon, not only by the pueblo people, but also of the Navajo people. Such stories have been passed down in my family by my grandfather which he acquired from his forefathers. Chaco Canyon and the natural environment surrounding it is a site that has stood the test of time -and is a vital component of our identity as indigenous people in Northwest New Mexico. To desecrate the land is to disrespect us as human beings.
Yazzie	Venaya	N/A	Tribal interests	Historical landscape, and or cultural landscape are important aspects of existing contemporary native indigenous narratives of Northwest New Mexico. Therefore, the origins of place and identity are embedded at Chaco Canyon and should not be disturbed further.
Argust	Marcia	The Pew Charitable Trusts	Public health and safety	In addition to land degradation and fragmentation, there are human health impacts from the oil and gas development in the area. A community-focused Health Impact Assessment, which monitored the air quality and pollution in the Greater Chaco region, found high levels of particulate matter (or PM2.5) in the open air between homes and well pads, causing health issues for residents including Navajo communities living adjacent to oil and gas facilities.
Beasley	Allyson	Western Environmental Law Center	Public health and safety	"No Surface Occupancy" (NSO) stipulations could be implemented within a certain distance of residences, schools, or other occupied areas that might mitigate some of these effects, beyond the proposed 10-mile withdrawal area, but they do not eliminate BLM's obligation to take a hard look at health effects of leasing and drilling--or possible health benefits of mineral withdrawal-- as NEPA requires.
Beasley	Allyson	Western Environmental Law Center	Public health and safety	Accordingly, BLM must analyze reasonably foreseeable direct, indirect, and cumulative human health risks and impacts resulting from oil and gas leasing and development. 40 C.F.R. § 1506.6. Protecting public health is fundamental to NEPA's underlying purpose. NEPA was enacted in part to "stimulate the health and welfare of man," 42 U.S.C § 4321, and mandates that agencies consider the degree to which their proposed actions affect public health or safety. 40 C.F.R § 1508.27(b)(2). NEPA requires federal agencies "to use all practicable means, consistent with other essential considerations of national policy" to "assure for all Americans safe, healthful, productive and aesthetically and culturally pleasing surroundings." 42 U.S.C 4331(b). "Effects" that agencies must analyze include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative." 40 C.F.R § 1508.8 (emphasis added). In addition, NEPA's use of the term "human environment" expressed Congressional intent that NEPA should promote public policy attentive to the inexorable link between human well-being and environmental integrity.231 Senator Henry Jackson, the key author of NEPA, expressed this intent by stating: "When we speak of the environment, basically, we are talking about the relationship between man and these physical and biological and social forces that impact upon him."232 231 Exhibit 78, Rajiv Bhatia and Aaron Wernham, Integrating Human Health into Environmental Impact Assessment: An Unrealized Opportunity for Environmental Health and Justice, 116 ENVIRONMENTAL HEALTH PERSPECTIVES 991 (Apr. 16, 2008) (Noting that "the statutory and procedural requirements of EIA provide a powerful and underutilized mechanism to institutionalize a holistic, cross-sectoral approach to addressing health in public policy" and describing the then-emerging and now well-established practice of health impact assessment as a "catalyst" for integrating health considerations into environmental assessments under NEPA and its state analogs). 232 Id.
Beasley	Allyson	Western Environmental Law Center	Public health and safety	BLM also cannot dismiss health impacts as "temporary," and thus avoid taking a hard look at cumulative health impacts of well emissions, by simply assuming that wells will be properly plugged and reclaimed at the end of their useful lives, and thus cease to cause health risks and impacts at that time. BLM must analyze cumulative emissions and their impacts over the full life course of a well, in conjunction with other wells in the lease sale area and other past, present, and reasonably foreseeable future actions and emissions. Moreover, information from several states, and nationally, indicates that wells often are not properly plugged and reclaimed at the end of their "useful lives." For example, while it is sometimes difficult to obtain an exact count of "orphaned" or improperly plugged and abandoned wells, reports indicate that there are hundreds, even thousands, of such wells across private, state, and federal lands in New Mexico alone,260 and in nearby Western states such as Colorado and Wyoming.261 These wells can leach toxic chemicals and contaminate water supplies, posing direct and cumulative health risks to nearby communities.262 State and BLM bonding requirements are usually insufficient to meet the costs associated with plugging and abandoning these wells, retiring other equipment, and cleaning up the well sites. Thus, idle or orphaned wells and abandoned well sites pose not only health risks and impacts, but also financial ones,263 which can further compound existing health impacts, including cumulative impacts, and related health inequities.264 260 See, e.g., Exhibit 108, Adrian Hedden, State Agencies Grapple With Abandoned Oil Wells, Carlsbad Current- Argus, Feb. 9, 2018, Available at https://www.currentargus.com/story/news/local/2018/02/09/unplugged-state-agencies-grapple-abandoned-oil-wells/324990002/ . 261 See, e.g., Exhibit 109, Joshua Zaffos, 'Orphaned' Oil and Gas Wells are on the Rise." High Country News, Jan. 16, 2018. Available at https://www.hcn.org/issues/50.3/energy-industry-orphaned-oil-and-gas-wells-are-on-the-rise . 262 Id. 263 Id.; See also Exhibit 110, U.S. Gov't Accountability Office, Oil and Gas Wells: Bureau of Land Management Needs to Improve its Data and Oversight of Its Potential Liabilities 1, GAO-18-250 (May 2018), available at: https://www.gao.gov/assets/700/691810.pdf ; Exhibit 111, U.S. Gov't Accountability Office, Bureau of Land Management Should Address Risks from Insufficient Bonds to Reclaim Wells, GAO-19-615 (Sept. 2019). 264 PSR 2020 at 50-51.
Beasley	Allyson	Western Environmental Law Center	Public health and safety	In addition to the land and water contamination issues, at each stage of production and delivery tons of toxic volatile compounds, including benzene, toluene, ethylbenzene, xylene, etc., and fugitive natural gas (methane), escape and mix with nitrogen oxides from the exhaust of diesel-driven, mobile and stationary equipment to produce ground-level ozone. Ozone combined with particulate matter less than 2.5 microns produces smog (haze). Gas field produced ozone has created a serious air pollution problem similar to that found in large urban areas, and can spread up to 200 miles beyond the immediate region where gas is being produced. Ozone not only causes irreversible damage to the lungs, it is equally damaging to conifers, aspen, forage, alfalfa, and other crops commonly grown in the West. Adding to this is the dust created by fleets of diesel-driven water trucks working around the clock hauling the constantly accumulating condensate water from well pads to central evaporation pits.136 136 Exhibit 39, The Endocrine Disruption Exchange, Chemicals In Natural Gas Operations: Health Effects Spreadsheet and Summary
Beasley	Allyson	Western Environmental Law Center	Public health and safety	BLM must provide more than a general list of historic health and safety-related risks that "have resulted" in the past from oil and gas extraction--it must also analyze any present or reasonably foreseeable future health and safety impacts that could result from its decisions, in the relevant project or planning area. Merely listing historical risks simply establishes background information--it tells the decision-maker and the public nothing about impacts from this leasing decision. NEPA and its implementing regulations require BLM to do more than list generalized categories of risks: the agency must analyze and take a hard look at those risks and their effects. See 40 C.F.R. § 1508.8 (requirement to analyze direct and indirect effects, synonymous with impacts); see also 40 C.F.R. § 1508.7 (defining cumulative impacts, which include past, present, and reasonably foreseeable future actions); see also 40 C.F.R. § 1508.25 (c) (stating that, in determining scope of environmental impact statements, agencies shall consider direct, indirect, and cumulative impacts). Indeed, "[g]eneral statements about 'possible' effects and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided." Kern v. Unites States BLM, 284 F.3d 1062, 1075 (9th Cir. 2002). And BLM cannot defer NEPA's requisite hard look at health impacts to later stages of project implementation. The intent of NEPA is for agencies to study the impact of their actions on the environment--including actions that either enable or curtail fracking and drilling in the Greater Chaco, such as the proposed withdrawal, RMP planning decisions, or leasing or permitting decisions --before the action is taken. See Conner v. Burford, 848 F.2d 1441, 1452 (9th Cir. 1988) (NEPA requires that agencies prepare an EIS before there is "any irreversible and irretrievable commitment of resources");see also Upper Pecos Ass'n v. Stans, 500 F.2d 17 (10th Cir. 1974) (concluding that "consideration of environmental factors should come in the early stages of program and project formulation").
Beasley	Allyson	Western Environmental Law Center	Public health and safety	Maternal, Prenatal and Child Health Impacts Numerous studies also suggest that higher maternal exposure to fracking and drilling can increase the incidence of high-risk pregnancies, premature births, low-birthweight babies, and birth defects.300 A study of more than 1.1 million births in Pennsylvania found evidence of a greater incidence of low-birth-weight babies and significant declines in average birth weight among pregnant women living within 3 kilometers of fracking sites.301 The study estimated that about 29,000 U.S. births each year occur within 1 kilometer of an active fracking sties and "that these births therefore may be at higher risk of poor birth outcomes." A study of 9,384 pregnant women in Pennsylvania found that women who live near active drilling and fracking sites had a 40 percent increased risk for having premature birth and a 30 percent increased risk for having high-risk pregnancies.302 Another Pennsylvania study found that pregnant women who had greater exposure to gas wells-measured in terms of proximity and density of wells-had a much higher risk of having low-birthweight babies; the researchers identified air pollution as the likely route of exposure.303 In rural Colorado, mothers with greater exposure to natural gas wells had a higher risk of having babies with congenital heart defects and possibly neural tube defects.304 A July 2020 study found that residential proximity to flaring (the open combustion of natural gas) from oil and gas development was associated with an increased risk of preterm birth, specifically for "Hispanic" women, in the Eagle Ford Shale of Texas.305 Here, again, these documented risks are of particular concern in certain communities in Greater Chaco in light of environmental justice concerns, like proximity of homes to multiple oil and gas wells306 (an exacerbating factor in the Eagle Ford Shale study), and social and structural inequities, such as limited access to prenatal care--a serious concern in San Juan and Sandoval Counties, where over 30% of women lacked prenatal care in the first trimester in 2017, and in Rio Arriba and McKinley Counties, where over 40% of women lacked first-trimester prenatal care. 307 BLM should have taken local health data like this into account as part of its "hard look" at health impacts, especially as they relate to social determinants of health and environmental justice. 300 See, e.g., PSR 2020, at 187-189. 301 Currie et al., Hydraulic fracturing and infant health, supra Note XX 302 Exhibit 137, Casey, Joan A., Unconventional Natural Gas Development and Birth Outcomes in Pennsylvania, USA, 27 EPIDEMIOLOGY 163 (2016). 303 Exhibit 138, Stacy, Shaina L. et al., Perinatal Outcomes and Unconventional Natural Gas Operations in Southwest Pennsylvania. 10 PLoS ONE e0126425 (2015). 304 McKenzie, Birth Outcomes (2014), supra 305 Exhibit 127, Lara J. Cushing et al., Flaring from Unconventional Oil and Gas Development and Birth Outcomes in the Eagle Ford Shale in South Texas, 128 ENVIRONMENTAL HEALTH PERSPECTIVES , 077003 (2020). 306 See EDF, New Mexico Oil and Gas Data tool, available at https://www.edf.org/nm-oil-gas/ , for one excellent resource for mapping proximity of homes to wells, along with other environmental-justice-relevant data, specifically in New Mexico. We recommend that BLM use this and other available tools for taking a hard look at cumulative health impacts and environmental justice impacts. 307 New Mexico Department of Health, Health Indicator Report of Prenatal Care in the First Trimester, available at https://ibis.health.state.nm.us/indicator/view/PrenCare.Cnty.html .
Beasley	Allyson	Western Environmental Law Center	Public health and safety	BLM should analyze these asthma-related effects in relation to existing asthma rates and hospitalizations and related impacts in Greater Chaco communities. For example, in San Juan and Rio Arriba Counties, child asthma hospitalizations exceed the New Mexico state average.281 Rio Arriba and McKinley Counties have some of the highest rates of asthma emergency department visits in Northern New Mexico, also in excess of the state average (and rates are likely underestimated in this data set because many asthma-related visits in the region are to IHS facilities, which were not included here).282 And air pollution-related asthma, in particular, can exert profound and widespread cumulative health effects throughout a person's life course, especially when combined with social determinants of health. For example, children with asthma are much more likely to miss school, hurting their educational prospects as well as their health (with some adverse health effects enduring into adulthood), and resulting in significant funding losses for local schools.283 As the New Mexico Department of Health has noted,284 and nationwide studies confirm,285 "low-income" populations and "environmental justice" populations face not only disproportionate asthma risks, but also significant difficulty managing their asthma, in part due to lack of access to health care. For example, from 2013-2017 (the most recent data available on NM Dept. of Health IBIS database), over 1/3 of San Juan County residents do not have a primary care provider,286 and over 16% of adults in San Juan County were unable to get needed care due to cost.287 281 New Mexico Dept. of Health, The Burden of Asthma in New Mexico: 2014 Epidemiology Report (Jan. 2014), at 41. Available at https://nmhealth.org/data/view/environment/54/ [hereinafter, NM DOH, Burden of Asthma]; See also New Mexico Department of Health, New Mexico's Indicator-Based Information System ("NM-IBIS"), "Health Indicator Report of Asthma Emergency Department Visits Among Children, 2014-2016), available at https://ibis.health.state.nm.us/indicator/view/AsthmaEDChild.Cnty.html 282 NM DOH, Burden of Asthma at 33 283 See Exhibit 117, Attendance Works, Mapping the Early Attendance Gap (2017). Available at http://www.attendanceworks.org/wp-content/uploads/2017/05/Mapping-the-Early-Attendance-Gap_Final-4.pdf . 284 Exhibit 118, New Mexico Dept. of Health, The Burden of Asthma in New Mexico: 2014 Epidemiology Report (Jan. 2014), at 41. Available at https://nmhealth.org/data/view/environment/54/ . 285 See, e.g., Exhibit 119, Tim Kelley and Gregory D. Kearney, Insights Into the Environmental Health Burden of Childhood Asthma, 12 ENVIRONMENTAL HEALTH INSIGHTS doi: 10.1177/1178630218757445 (Feb. 20, 2018). 286 See https://ibis.health.state.nm.us/indicator/view/HlthCarePriProv.Cnty.html 287 See https://ibis.health.state.nm.us/indicator/view/HlthCareAccessMedCost.Cnty.html

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Beasley	Allyson	Western Environmental Law Center	Public health and safety	BLM's full analysis and disclosure of health and safety risks and impacts, including cumulative impacts, is particularly important given that typical methods of collecting and analyzing emissions data have often underestimated health risks by failing to adequately measure the intensity, frequency, and duration of community exposure to toxic chemicals from fracking and drilling; failing to examine the effects of chemical mixtures; and failing to consider vulnerable populations.255 Of high concern, numerous studies highlight that health assessments of drilling and fracking emissions often fail to consider impacts on vulnerable populations including environmental justice communities256 and children.257 For example, a recent analysis of oil and gas development in California found that 14 percent of the state's population totaling 5.4 million people live within a mile of at least one oil and gas well. More than a third of these residents, totaling 1.8 million people, also live in areas most burdened by environmental pollution.258 255 Exhibit 104, Brown, David et al., Understanding Exposure From Natural Gas Drilling Puts Current Air Standards to the Test. 29 REVIEWS ON ENVIRONMENTAL HEALTH 277 (2014). 256 Exhibit 105, NRDC [Natural Resources Defense Council], Drilling in California: Who's At Risk?, October 2014 ("NRDC 2014"); Exhibit 106, Clough, Emily & Derek Bell, Just Fracking: A Distributive Environmental Justice Analysis of Unconventional Gas Development in Pennsylvania, USA, 11 Environmental Research Letters 025001 (2016); Exhibit 107, McKenzie, Lisa M. et al., Population Size, Growth, and Environmental Justice Near Oil and Gas Wells in Colorado, 50 ENVIRONMENTAL SCIENCE & TECHNOLOGY 11471 (2016). 257 Webb et al., Potential Hazards of Air Pollutant Emissions From Unconventional Oil and Natural Gas Operations on The Respiratory Health of Children And Infants, supra 258 NRDC 2014, supra
Beasley	Allyson	Western Environmental Law Center	Public health and safety	In considering possible health benefits of the proposed withdrawal, BLM should also take into account the cumulative impacts of historical and ongoing leasing and drilling, and the vast leasing and drilling that would still be allowed via development of existing leases.241The fact that over 90% of lands in the Greater Chaco are already leased for fracking and drilling underscores the need for BLM to take additional steps, beyond the proposed withdrawal, to ensure landscape-level protections across Greater Chaco and its communities. These additional steps should include, among other things, "no new leasing" alternatives in the Farmington and Rio Puerco RMPs. 241 See BLM Withdrawal FAQ, supra Note 8
Beasley	Allyson	Western Environmental Law Center	Public health and safety	Processes used to produce oil and gas often generate radioactive waste containing concentrations of naturally occurring radioactive materials (NORM) and Technologically Enhanced Naturally Occurring Radioactive Materials (TENORMS). The geological formations to be drilled will result in radioactive waste, containing both NORMS and TENORMs. The radioactive materials will show up in formation drilling, production wastes, and operations. Every single shale well that uses an on-site pit for disposal of drill cuttings and/or fluids likely will leave behind some amount of concentrated radioactive materials.312 Further, Alpha-emitting radioactive decay elements concentrate at the pipe scale, so the waste is much more radioactive than any of the constituent parts.313 BLM must also evaluate radiation exposure risks as part of its obligation to take a hard look at public health and safety. Further, BLM should conduct a baseline groundwater analysis in the lease sale areas before any more leasing and development occurs, to ensure that no environmental contamination occurs from disposal of radioactive sludge/scale. 312 See Exhibit 133,Occupational Health and Safety (Oct. 01, 2012) "Radiation Sources in Natural Gas Well Activities," https://ohsonline.com/Articles/2012/10/01/Radiation-Sources-in-Natural-Gas-Well-Activities.aspx?Page=2 . 313 Exhibit 134, USGS (1999) Naturally Occurring Radioactive Materials (NORM) in Produced Water and Oil-Field Equipment- An Issue for the Energy Industry https://pubs.usgs.gov/fs/fs-0142-99/fs-0142-99.pdf .
Beasley	Allyson	Western Environmental Law Center	Public health and safety	BLM must not summarily dismiss health and safety impacts as temporary simply because some exposures (e.g., to emissions and fugitive dust from construction) are temporary. It is arbitrary, and contrary to scientific understanding, to assume that just because an exposure is temporary, so too are the effects resulting from that exposure. The health effects that can arise from environmental exposures, especially in conjunction with social determinants of health and environmental justice issues, may endure long after the acute exposure source is gone.259 Indeed, NEPA requires BLM to consider, in assessing the significance of an action, "[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts." 40 C.F.R. § 1508.27(b)(7). Indeed, "[s]ignificance cannot be avoided by terming an action temporary or by breaking it down into small component parts." 40 C.F.R. § 1508.27(b)(7) (emphasis added). See also 40 C.F.R. § 1508.27(a) (requiring consideration of both short and long-term effects). 259 See, e.g., Morello-Frosch et al, supra; Some specific examples include birth defects arising from prenatal exposures, enduring cognitive difficulties arising from prenatal or early childhood exposures, or asthma that develops in childhood, affects school attendance (and health outcomes related to it), and endures into adulthood.
Brickley	Christine	N/A	Public health and safety	The people were hopeful that Chaco - sacred land to all of the Pueblos - would always be safe from the types of activities that ultimately caused disturbances of their homelands, their spirits, and their health. Many talked openly about this, knowing the sacrifices they and other family members had made in the name of economic development, projects that were often approved without tribal input. The people know now that economic development projects in and around their lands need to consider the needs of the people, in terms of spiritual matters and health.
Brown	Diane	N/A	Public health and safety	Both the people living near Chaco Canyon now as well as we who visit this sacred area need protection from the methane, in particular, and any other toxins released when either drilling for gas or extracting any other fossilfuel. There may be complications you must consider as you make this decision. I know we all want fuelfor our cars and homes, for instance. Yet let this be a time when the power of the US government is used for the health and wellbeing of the Indigenous Peoples, many who, I believe, have petitioned you through their Governors. I assume long time ranchers near to Chaco Canyon consider themselves natives to the land and also want to maintain their heath. As a New Mexico resident and visitor to Chaco, I urge you to Protect the People by reinstating the 10 mile radius of Protection for Chaco Canyon.
Davis	Carol	Native Organizers Alliance	Public health and safety	Living communities beyond the 10-mile buffer will continue to suffer poor air quality, noxious fumes, fugitive dust from high truck traffic, depleting water resources, degradation of land, water, and air quality.
Glasenapp	Logan	New Mexico Wild	Public health and safety	BLM must take a hard look at health and safety impacts to the community surrounding the proposed withdrawal. Local community and Tribal members have expressed serious concerns about the impacts of oil and gas development on local air and water quality, as well as noise and dust from nearby operations. Given the science supporting negative health impacts and continual requests from those most impacted by this decision, our coalition fully supports the proposed withdrawal area. This withdrawal would generally decrease risks to public health and safety from air emissions, noise, light pollution, and traffic, thus benefiting community health and wellbeing. The impact to public health from industrialized drilling and associated climate impacts cannot be understated, particularly with such a rampant acceleration in the surrounding area in a short period of time. A 2014 review identified 15 different components of unconventional oil and gas development, everything from trucks and tanks to chemicals and venting, which can present a chemical, physical and/or safety hazard.59 59 John L. Adgate et al., Potential Public Health Hazards, Exposures and Health Effects from Unconventional Natural Gas Development, 48 ENVIRONMENTAL SCIENCE & TECHNOLOGY 8307 (Feb. 24, 2014). Residents living near drilling and fracking operations experience increased reproductive harms, asthma attacks, rates of hospitalization, ambulance runs, emergency room visits, self-reported respiratory problems and rashes, motor vehicle fatalities, trauma, and drug abuse. A 2019 Physicians for Social Responsibility review concluded: By several measures, evidence for fracking-related health problems is emerging across the United States. In Pennsylvania, as the number of gas wells increase in a community, so do rates of hospitalization. Drilling and fracking operations are correlated with elevated motor vehicle fatalities (Texas), asthma (Pennsylvania), self-reported skin and respiratory problems (southwestern Pennsylvania), ambulance runs and emergency room visits (North Dakota), infant deaths (Utah), birth defects (Colorado), high risk pregnancies (Pennsylvania), premature birth (Pennsylvania), and low birthweight (multiple states). Benzene levels in ambient air surrounding drilling and fracking operations are sufficient to elevate risks for future cancers in both workers and nearby residents, according to studies. Animal studies show that two dozen chemicals commonly used in fracking operations are endocrine disruptors that can variously disrupt organ systems, lower sperm counts, and cause reproductive harm at levels to which people can be realistically exposed.60 60 See https://www.psr.org/blog/resource/compendium-of-scientific-medical-and-media-findings-demonstrating-risks-and-harms-of-fracking/ Across the country, multiple studies have pointed to the negative impacts of oil and gas development on community health, raising deep environmental justice concerns. In Pennsylvania, the following symptoms were reported by over half the people living near gas development who responded to a health survey. They included fatigue (62%), nasal irritation (61%), throat irritation (60%), sinus problems (58%), burning eyes (53%), shortness of breath (52%), joint pain (52%), feeling weak and tired (52%), severe headaches (51%), and sleep disturbance (51%). The survey was completed by 108 individuals (in 55 households) in 14 counties across Pennsylvania.61 Similar impacts are probable to exist across impacted communities in New Mexico. 61 Nadia Steinzor, et al., Investigating links between shale gas development and health impacts through a community survey project in Pennsylvania, New Solutions, vol. 23 iss. 1. (2013). In one study, health experts surveyed agreed that oil and gas setbacks of over 1,000 feet were likely inadequate to protect public health, and additional setbacks were necessary to protect young children and elderly people.62Many unconventional oil and gas setback rules, for setbacks of 1000 feet or less, do not adequately protect health, especially children's respiratory health, that "the majority of municipal setback ordinances are not supported by empirical data," and calling for a one-mile minimum for setbacks between drilling facilities and schools, hospitals, and occupied dwellings in light of the heightened health risks of residing within .5 mile or less of unconventional oil and gas drilling sites. 62 See Celia Lewis et al., Setback Distances for Unconventional Oil and Gas Development: Delphi Study Results. 13 PLoS One e0202462 (Aug. 16, 2018). One such study found that babies whose mothers lived near multiple oil and gas wells were 30% more likely to be born with heart defects than babies born to mothers who did not live close to oil and gas wells.63 63 Lisa M. McKenzie et al., Birth Outcomes and Maternal Resident Proximity to Natural Gas Development in Rural Colorado, 122 ENVIRONMENTAL HEALTH PERSPECTIVES 412 (April 2014). In general, research indicates that the potential cumulative effects of social and environmental stressors and social determinants of health in the context of oil and natural gas activity can increase the risk or magnitude of exposure and/or severity of adverse health impacts of oil and gas drilling (e.g., pollution sources are often located closer to communities of color and low-income "environmental justice" communities-in this context largely Navajo residents currently already being hit very hard by COVID-19-underlying health conditions can increase vulnerability to pollution-related health impacts, and pollution-related health impacts can exacerbate existing health and socioeconomic stressors); and they can present obstacles to preventing, diagnosing, managing, and treating adverse health impacts.
Glasenapp	Logan	New Mexico Wild	Public health and safety	The proposed withdrawal can and should be an example of putting the commitments that the Biden Administration has emphasized into action for the benefit of the communities surrounding and historically connected to the greater Chaco landscape. As emphasized in Executive Order (EO) 13990, "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis", it is the Federal government's responsibility to "promote and protect our public health and the environment; and conserve our national treasures and monuments, places that secure our national memory." CCNHP is undoubtedly a national treasure rich in cultural history that deserves continued and improved protection. The EO emphasizes, in places "[w]here the Federal Government has failed to meet that commitment in the past, it must advance environmental justice." Given the extensive amount of existing oil and gas development in the region, existing community health impacts, high poverty rates, and countless other harms against Indigenous communities tied to the region, CCNHP and the proposed withdrawal area is a prime location for the Federal government to make progress towards righting past wrongs and advancing public health and environmental justice. In doing so, the Federal government must be guided by the best science and protected by processes that ensure the integrity of Federal decision-making. It is, therefore, the policy of [the Biden] Administration to listen to the science; to improve public health and protect our environment; to ensure access to clean air and water; to limit exposure to dangerous chemicals and pesticides; . . . to reduce greenhouse gas emissions; to bolster resilience to the impacts of climate change; to restore and expand our national treasures and monuments.58 58 EO 13990, "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis" January 20, 2021. Available at: https://www.whitehouse.gov/briefing-room/presidentialactions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackleclimate-crisis/ The present environmental analysis is one of the most prime opportunities for the Biden Administration to meet its commitments and stand up for environmental justice and community health.
Mitchell	Bill	N/A	Public health and safety	Please preserve the national park and also consider the the health impacts of living near oil and gas development. Then there are the long-term effects on air and water quality and the environment as a whole. In New Mexico we have huge fires happening, ongoing drought, we need to stop more emissions of methane leading to more greenhouse gases that are continuing to warm our planet, leading to more fires, and negative health impacts to the pueblo people of this region. The BLM's mission is to manage its lands for multiple uses and "to sustain the health, diversity and productivity of public lands." Please BLM do not adopt this plan and overly focus on the last point — productivity — at the expense of environmental protections and cultural preservation. In the checkerboard of private, BLM and tribal lands in the San Juan Basin, homes and even schools are often next to wellheads, pipelines, tanks and flares. “You go out there and you go near a big flare — and it stinks,” “You’re talking about one of the most sacred landscapes,” For much of the past 20 years, the basin has been a methane hot spot as the potent greenhouse gas leaks from wells. The massive emissions show up as a bright red dot, half the size of Connecticut, on satellite scans of the continental U.S. Those emissions push New Mexico to the top tier of greenhouse-gas-emitting states.
Pinto	Kendra	N/A	Public health and safety	Please find OGI footage of three well sites in and near the proposed buffer zone taken in April 2022: SG Interest https://youtu.be/dj6t2BDaisz8 . SG Interests https://youtu.be/qWiHNSb012c . Dugan Production Corp. https://youtu.be/r2JiHVLBKJw .
Pinto	Kendra	N/A	Public health and safety	As I walk through the Lybrook Badlands, I regularly come across older, dated well sites, likely drilled for gas decades earlier, and some may be at the point of deterioration. Public issues related to safety and health issues related to extraction should also be addressed by the BLM. Even now as I live and breathe within the Chaco area, I am occasionally met with odors of gas while recreating. As a certified optical gas imaging thermographer, I have seen emissions venting from equipment on oil and gas well sites. As new oil wells are drilled, it is concerning to consider the consequences of improper industrial practices that may contaminate the soil and/or water. It is necessary to have the proper enforcement for hundreds of well sites that may and have likely already been releasing methane and volatile organic compounds into the atmosphere in quantities that cannot be properly quantified by the operators and regulatory agencies. With a hundred years of mineral withdrawal in the Greater Chaco landscape, the land cannot continue to be sacrificed for short term profits and no promise of remediation should it be needed in the future.
Plucinski	Melanie	Native Organizers Alliance	Public health and safety	Results of the Cultural and Spiritual Health Impact Assessment released in July 2021 prove that oil drilling operations in the Navajo Nation area of Counselor, Torreon and Ojo Encino is causing and has caused great harm to the people there, including: disruption of the endocrine system, birth defects, negative impacts to the respiratory system, and more devastation. The Counselor Health Survey asked respondents to share which parts of their body were most impacted, and 100% of the 57 respondents said their heads, 92% indicated the lungs and 40% their skin.
Tsosie	Beata	Breath of My Heart Birthplace	Public health and safety	The negative health impacts, abuse and misuse of precious water, chemical spills, waste disposal, and environmental harm from fracking and gas pollution on all those who live in the region are completely in violation of our Rights as Indigenous Peoples. "Although men make up 85% of the oil and gas extraction industry workforce (Energy Workforce and Technology Council, 2018), women and infants living proximal to tracking operations face unique health risks. Multiple studies have linked proximity to tracking to reproductive hardships including preterm birth (Whitworth et al., 2018), decreased birth rate and decreased health (Currie et al., 2017), and congenital heart defects (McKenzie, Allhouse, and Daniels, 2019). (Murphy, Mollie K., 2021)." We have also heard firsthand narratives of the respiratory illness, cancers, and birth defects from families in the region. It is a matter of reproductive justice that those most vulnerable are centered in regards to environmental protections. It is our right to have and raise our children in a clean, healthy and safe environment. The 10 mile buffer does not do this.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Carlesco	Adam	Food & Water Watch	Paleontological resources	1. BLM should suspend extractive activities on existing leases within the setback zone While the proposed withdrawal would prevent future leasing for oil and gas extraction over the next 20 years, BLM's proposed withdrawal allows for the continued drilling on previously leased parcels and the extraction of gravel and sand. Withdrawing these parcels from future leasing but allowing continued extractive uses does not address the underlying natural and paleontological concerns raised as justification for this withdrawal.1 By allowing for continued extractive activities on previously leased parcels within the protected area, BLM is not adequately fulfilling the withdrawal's stated purpose of "protect[ing] ... northwestern New Mexico from industrial impacts associated with oil and gas development activities and from adverse effects of locatable mineral exploration and mining".2 1 87 Fed. Reg. 786 (Jan. 6, 2022). 2 Id.
Montgomery	Ellen	Environment New Mexico	Biological resources	Because the park is only one of two protected areas1 in the San Juan Basin, the protections are now a critical tool for biodiversity in the region-- much of which has been disrupted by grazing and mineral and fossil fuel extraction. There are three major landforms2 within the park: Chaco Canyon, Createaus sandstone mesas and a set of smaller side canyons. The park lies within the San Juan Basin atop the Colorado Plateau and is surrounded by three sets of mountains: the Chuska, San Juan and San Pedro Mountains. The area sustains a wide range of microclimates, which support diverse plant and animal species. Elk, bobcats, rabbits, porcupines, badgers, wild horses and more than 100 bird species3 call the canyons and woodlands home. 1 "Natural Features & Ecosystems," National Park Service, last accessed 4/19/2022 https://www.nps.gov/chcu/learn/nature/naturalfeaturesandecosystems.htm 2 "Natural Features & Ecosystems," National Park Service, last accessed 4/19/2022 https://www.nps.gov/chcu/learn/nature/naturalfeaturesandecosystems.htm 3 "The Birds of Chaco - A Checklist," National Park Service, last accessed 4/19/2022 https://www.nps.gov/chcu/learn/upload/BIRDS-OF-CHACO-CANYON-2005.pdf
Black	Andrew	EarthKeepers360	Wildlife	The Chaco Culture National Historical Park and the surrounding area also provide critical wildlife habitat to a diverse array of species ranging from elk and mule deer to large predators like cougar, bobcats and badgers as well as a wide variety of birds and reptiles. However, development of oil and gas wells, roads, pipelines, and other infrastructure have severely impacted the area's wildlife. The proposed withdrawal will ensure the protection of over 350,000 acres of key wildlife habitat as well as protect the area's unique biodiversity.
Bowannie	Chantel	Zuni Pueblo	Wildlife	Additionally, the lands surrounding Chaco are important migration corridors for various wildlife including mule deer. New gas and oil drilling would contribute to reduced habitat for wildlife and would lead to population fragmentation. This also includes the service roads that are made in order to service the drill sites. Each new service road diminishes the area wildlife can use and pushes them further away from an area, therefore changing their habitat and migration routes. This changes the environment surrounding Chaco. The proposed withdrawal will help the damage that has already been done by drill sites and service roads by not adding new sites and roads.
Glasenapp	Logan	New Mexico Wild	Wildlife	All of the benefits stated above indirectly benefit all species of plant and animal in the region by limiting human-species conflicts, reducing light pollution which can disrupt routines, and contributing to a better balanced climate. The limitation on oil and gas development will also directly improve the lives of species that call Chaco home including "elk, deer, bobcats, rabbits, badgers, porcupines, bats, snakes, lizards and other amphibians, and diverse bird populations."84 84 Chaco Culture National Historical Park-Nature, https://www.nps.gov/chcu/learn/nature/index.htm Additionally, this proposed withdrawal will directly support the protection of listed threatened and endangered species. A quick search of the Fish and Wildlife Service's iPac mapping tool shows the potential existence of several threatened and endangered species in the withdrawal area. These include Canada lynx, Mexican spotted owl, Southwestern willow flycatcher, yellow-billed cuckoo, Colorado pikeminnow, razorback sucker, Monarch butterfly, Knowlton's cactus, Mancos milk-vetch, Mesa Verde cactus, and the Zuni fleabane. Creating development-free space around the Park will benefit these species in their recoveries.
Glasenapp	Logan	New Mexico Wild	Wildlife	Chaco is also home permanently and temporarily to many species of animals and plants that are listed as under threat or endangered under the Native Species Act. Human intrusion can severely disrupt important and often innate cycles for the animals.
Glasenapp	Logan	New Mexico Wild	Wildlife	This is particularly true for several avian and amphibian species in or near Chaco Culture National Historical Park. Prohibiting mineral development is an important and necessary step in limiting the human impact on critters with whom we share these lands.
Not Provided	Not Provided	National Wildlife Federation, New Mexico Wildlife Federation, HECHO	Wildlife	The CCNHP and surrounding areas provide important habitat for wildlife, including elk, mule deer, bobcats, cougars, and badgers. The area is also home to bird and reptile species, including the mountain plover, the burrowing owl, and the boreal chorus frog. Unsurprisingly, New Mexico Department of Game and Fish has identified the CCNHP and surrounding landscape as crucial wildlife habitat for multiple species.3 3 Using the Crucial Habitat Assessment Tool (CHAT), the New Mexico Game and Fish Department classified these areas as Crucial Habitat Priority Levels 3 and 4. For more information on the CHAT tool, visit: http://nmchat.org/data-metadata.html . Oil and gas development would harm wildlife that rely on the CCNHP and surrounding areas. Energy development directly and indirectly affects wildlife and wildlife behavior. Drilling for oil and gas requires the construction of roads, well pads, pipelines, and pump stations, all of which destroy or degrade wildlife habitat. While the BLM requires reclamation of these disturbances, it is often decades before these areas are returned to their former state and even then, reclamation in such an arid environment is challenging. In addition to these direct effects, activities associated with energy development-truck traffic, pad construction, well drilling-impact wildlife behavior.4 Mule deer and other ungulates avoid energy development, sacrificing access to important forage and habitat.5 Moreover, recent studies show that, contrary to common assumption, mule deer do not habituate to this activity. Rather, they continue to avoid disturbance and disturbed areas. This change in behavior has long term negative implications for the health of mule deer populations. 4 Hall Sawyer, Nicole M. Korfanta, Ryan M. Nielson, Kevin L. Monteith & Dale Strickland, Mule deer and energy development-Long-term trends of habituation and abundance, GLOBAL CHANGE BIOLOGY (Apr. 4, 2017). See also studies cited within this article. 5 Id.
Oravec	Ildiko	N/A	Wildlife	An unparalleled example of an ancient civilization with direct ties to indigenous cultures around the state, it also provides a critical migration corridor for elk, mule deer, and pronghorn and is home to priority bird species including the Pinyon Jay and Prairie Falcon. Limiting further oil and gas development in this already impacted and highly sensitive area will protect archeological and religious sites and safeguard wildlife by limiting further habitat destruction and fragmentation.
Jankowitz	Rachel	Native Plant Society of New Mexico	Vegetation	Rare plants will also benefit from the minerals withdrawal. The proposed project area does not have much overlap with Important Plant Areas (IPAs) identified in the NM Rare Plant Conservation Strategy, but it is located so as to provide connectivity between the Bisti Oil Field, Nageezi Badlands, Borrego Pass, and Fallen Timber Ridge IPAs. Conserved or improved habitat will benefit rare plant species by allowing for reproductive connectivity and better resilience to climate change.
Jankowitz	Rachel	Native Plant Society of New Mexico	Vegetation	A 2017 Natural Resource Condition Assessment of CCNHP, administered by the National Park Service, found that the resources of significant concern were vegetation health, from the impacts of ozone, and the acoustic environment, due to reduction in listening area. Weed impacts were unknown, there being no recent data. Oil and gas drilling is known to produce adverse impacts on vegetation through generation of dust, direct habitat removal, weed introduction, and increases in atmospheric ozone concentration and nitrogen deposition.
Moore	Stan	N/A	Recreation	I am also concerned that the withdrawal of of public lands surrounding the park will lead to road closures and loss of right of way, hurting access to public land surrounding the park and request the BLM consider this concern.
Wegner	David	N/A	Recreation	I am concerned about the ambiguous use of the word: "MAY". I would like to see: "continued use WILL be permitted". I do not see any justification for restricting recreational use. Currently it is difficult to obtain campsite reservations in the CCNHP when the weather is nice. Camping on BLM land outside the park is at least a 20 minute drive from the park. The park is so remote overnight camping is required for visitors. It would be wrong to make it more difficult for visitors by restricting recreational use of BLM land near the park.
Cottrell	Sarah	State of New Mexico, Energy, Minerals and Natural Resources Department	Energy and minerals	Any withdrawal requirements imposed by the BLM must also not limit the State of New Mexico's or the Navajo Nation's ability to manage and regulate mineral development on the lands and minerals subject to their respective jurisdictions.
Benally	Aw	N/A	Fluid	Despite the desire by Allottees for gas and oil companies to continue the production of these fuel minerals, there is ongoing disruption of production. The US government has seen fit to pace moratoriums as it chooses. It perplexes to me why when to the Department of interiors Indian affairs, the office of natural resources revenue, the Bureau of Land Management and the Bureau of trust fund administration profess to share the same responsibilities for the protection of Indian mineral interest and trust management are not provide advocacy for allottees and there are allotments. Periodic question and answer sessions are held and collected and likely with similar concerns I'm sharing now yet what becomes of these sessions? With whom are they shared and what type of results are generated? How do we allottees benefit? It's rare to hear how these concerns or questions are used in advocating at the top tier of the Interior Department the four departments receive directives from Deb Haaland and are "directed" to adhere. Case in point is the Chaco Canyon park.
Brown	Dave	DJR Operating, LLC	Fluid	Impact on Allottees: It is critical to recognize that individual Indian mineral owners who hold title to lands within the land withdrawal (which essentially represents a 10-mile buffer) will not likely be able to develop their minerals if surrounding federal lands are off-limits to development. The reason being is that the northern and eastern portion of the withdrawal areas are dominated by public/BLM land as depicted on the map labeled "Appendix B; Chaco Culture National Historic Park Area Withdrawal." These public/BLM lands which would be withdrawn by this petition are toward the direction where existing oil and gas infrastructure already exists, and it is from this direction where pipeline and roads would be built to reach the allotments. Therefore, if the public/BLM lands are withdrawn, there is no way to build roads or pipelines to reach the allotments for development resulting in those parcels being stranded. Royalty income to the allottees from oil and gas development is an important source of revenue. Thus, any federal land withdrawal will inevitably work at cross-purposes with BIA's mission to "to ensure that Indian mineral owners desiring to have their resources developed are assured that they will be developed in a manner that maximizes their best economic interests and minimizes any adverse environmental impacts or cultural impacts resulting from such development" as required 25 C.F.R. § 211.1(a). Thus, the agencies should consider how the rights of Indian landowners would be compromised because the public lands, necessary to access the allotments, will not be available.
Fitch	Ken	N/A	Fluid	The recommendation at the Zoom meeting for seismic instruments seems worthy of consideration.
Laurenzi	Andy	N/A	Fluid	By the BLM's own omission in the Farmington Resource Management Plan, the oil and gas resources in proximity to the Park are of low economic value.
Leith	Bill	N/A	Fluid	As you know, earthquakes larger than magnitude 5 have been triggered, nationally and internationally, by post-production injection of brines. Even in New Mexico, earthquakes larger than magnitude 4 have been induced by enhanced recovery techniques such as fracking. This size of earthquake could easily damage the fragile historic structures of Chaco Culture Park. Although moderate size earthquakes are very rare in the area of Chaco Culture, even the small possibility of damage to the unique archaeological sites there requires that a 10-mile ban on oil and gas production be considered a minimum safe distance, to reduce the risk of damage.
Leith	Dr. William	New Mexico Tech	Fluid	My concern for oil and gas drilling and production near Chaco Culture National Historical Park is for earthquakes that may be induced during production. I am an expert in earthquakes triggered by oil and gas production. As you know, earthquakes larger than magnitude 5 have been triggered, nationally and internationally, by post-production injection of brines. Even in New Mexico, earthquakes larger than magnitude 4 have been induced by enhanced recovery techniques such as fracking. This size of earthquake could easily damage the fragile historic structures of Chaco Culture Park. Although moderate size earthquakes are very rare in the area of Chaco Culture, even the small possibility of damage to the unique archaeological sites there requires that a 10-mile ban on oil and gas production be considered a minimum safe distance, to reduce the risk of damage. The attachment shows that there are already dozens of oil and gas wells within 10 miles of the Park (scale on the lower left).
Parks	Tripp	Western Energy Alliance	Fluid	Each year, improvements in technology reduce the footprint of oil and natural gas development, and reclamation techniques continue to improve so that the impact to the land is small and temporary. Over the last decade, oil and natural gas development has shifted from vertical wells with dense well-pad spacing to directional and horizontal wells with significantly less disturbance and fragmentation per section of land developed. One horizontal well now takes the place of 8 to 16 vertical wells, leading to reductions in surface disturbance and greenhouse gas emissions due to fewer well pads, decreased truck traffic, and drilling equipment and construction emissions. Given the limited disturbance created by horizontal drilling and the multiple use mandate and trust responsibility, BLM must ensure that any final withdrawal places only narrowly tailored, reasonable restrictions on federal lands and acknowledge the attendant impacts on tribal and allottee lands.
			Fluid	It would not affect valid existing rights, and thus ongoing mineral development, even on public lands otherwise located in the Withdrawal area, and thus withdrawn.
Pasqual	Theresa	Pueblo of Acoma		It will also not affect any lands that do not qualify as public lands, such as the Navajo Nation's lands, Navajo allottees' lands, the state of New Mexico's lands, and privately owned lands.
Reed	Paul	Archaeology Southwest	Fluid	Another important consideration--aside from critical concerns about the protection of fragile cultural and historic sites--is the fact that the development potential for oil-gas resources in the area is low to moderate. Areas of much greater potential to the north and northeast of the 10-mile zone were developed for Mancos Shale production more than a decade ago. Unleased Federal lands in the 10-mile zone have not been leased to date, in large part because they have limited potential.
Renfro	William	N/A	Fluid	If drilling, completion, reservoir development by hydraulic fracturing, and oil and gas production is allowed within a ten-mile radius of Chaco Culture National Historical Park, several problems will occur. First, the development of access roads and subsequent heavy vehicular traffic will cause vibrations, loud sound waves, and constant dust in the atmosphere, all of which will take its toll. The largest issue that will confront the region is the production of massive amounts of produced salt water during production of the hydrocarbons, particularly in horizontal wells. This will require the drilling of saltwater disposal wells which will inject the produced water into non-productive formations. As has been demonstrated in the Permian Basin of Texas and New Mexico, the disposal by injection of large amounts of produced water eventually causes seismic activity which increases to magnitudes as great as 4+ on the Richter Scale! Such seismic activity would be devastating to the ancient structures of Chaco Canyon.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Smitherman	John	New Mexico Oil & Gas Association	Fluid	A 1 1/2 mile long horizontal well costs approximately \$6.4 million. In order to justify the investment required to construct multi-well pads, surface facilities, water recycling facilities, and pipelines, oil and gas operators must pool allottee leases with the adjacent federal leases in large federal units managed by the BLM. The economies of scale achieved by modern horizontal drilling technology in large federal units efficiently maximize the extraction of valuable tight oil reserves as well as the royalty revenues generated for both the federal government and the allottees, with minimal impact to the environment.
Smitherman	John	New Mexico Oil & Gas Association	Fluid	The 5-mile buffer zone proposed by the Navajo Nation is supported by the geological features of the Mancos/Gallup formation. Within 6 miles from the boundary of the CCNHP, the geology is such that Mancos/Gallup tight oil sand is not economically productive. Starting at approximately 6 miles northeast of the CCNHP, the Mancos/Gallup formation changes such that it is a viable economic resource available for development on both federal acreage and on Tribal Allottee lands. The mineral resources underlying both leased and unleased Navajo allotments in the outer 5 miles of the proposed buffer zone (the area NMOGA and the Navajo Nation propose to be available for development) will be impossible to develop in the absence of federal leasing for several reasons. The Mancos/Gallup tight sand reservoir is thin, approximately 150 feet thick in this area, and has low porosity and permeability. The problem with using vertical wells to develop a relatively thin, unconventional reservoir, is that the well's productivity is directly correlated to the number of feet the wellbore is in contact with the reservoir. A vertical well drilled through a 150' thick reservoir will have 150' of contact with the reservoir. A horizontal well drilled through the middle of the same reservoir will be in contact with the same reservoir for as many feet as the lateral is long. A 1 mile horizontal well will have roughly 5,000' of productive section while a 2 mile well will have roughly 10,000' of productive section. All of the reservoir contacted by the wellbore should be developed to defray the cost of the vertical portion of the wellbore plus all of the necessary surface infrastructure. This is why that even if Rights of Way are granted to drill through federal minerals to develop Tribal minerals, the lack of access to federal minerals will doom the development of the Tribal minerals. Further, lack of surface use on federal lands, even if no wells are sited on federal land, would also preclude development of the Tribal minerals since surface access would be essential for supporting infrastructure on checkerboarded areas.
Smitherman	John	New Mexico Oil & Gas Association	Fluid	The proposed 10-mile Chaco buffer will prevent the development of Navajo allottee minerals. While the proposed "no leasing" buffer around the Chaco Cultural National Historic Park excepts Navajo allotments, the practical effect of withdrawing federal minerals and surface access from oil and gas development extends to allottee minerals that are checkerboarded with the federal minerals. These lands consist of remote uninhabited areas that lack roads and any type of infrastructure, such as water, power lines or pipelines. It is economically impossible to access the Navajo allotments without including the development of federal minerals. There are 53 individual Navajo allotments in the 10-mile buffer zone that are already leased for oil and gas development. There are more than 418 unleased allotments in the buffer zone associated with over 22,000 allottees interspersed with the unleased federal minerals (see yellow tracts on the attached map). The leased allotments generate an average of \$6.2 million in royalties generated from the highly productive Mancos/Gallup tight oil sand. Many allottees, including elders, rely on this income for survival.
Sprague	Shaw	National Trust For Historic Preservation	Fluid	The proliferation of oil and gas development has had a significant adverse impact on the area, including around Pierre's Community, found at the edge of the proposed protected area. It has been described as an "industrial park" and has impacted Chaco's Great Northern Road. The protected area would prevent such impacts close to the Historical Park, and nearly half of the land that is still unleased is within the proposed protected area. In any event, the development potential of oil and gas resources in the proposed protected area is low-to-moderate. BLM has not issued a new oil and gas lease in the proposed withdrawal area since 2011. In 2014, the Obama Administration announced that it would defer issuing any new leases within 10 miles of the Historical Park. The Trump Administration deferred leases three times after announcing it would consider leasing. In 2019 Congress prohibited leasing on federal lands within the proposed withdrawal areas, as did the New Mexico State Land Commissioner on state lands within the proposed withdrawal area. The nation's need for energy resources will not be solved by developing additional oil and gas resources in this place.
Watson	Rebecca	Enduring Resources IV, LLC	Fluid	Summary. In the BLM Fact Sheet, "Protecting the Legacy and Culture of the Chaco Canyon Landscape," (November 2021), BLM asserts, "The segregation and proposed withdrawal would not affect existing rights of allottees or lease holders." This frequently asserted statement is incorrect and, based on BLM's extensive analysis of a similar proposal in the 2020 DEIS, BLM knows it. The Navajo Allottees "existing rights" most certainly will be diminished if the Secretary completes the ten-mile "no federal leasing" Withdrawal. There are 53 currently leased allotments generating an average of \$6.2 million per year for approximately 5,462 Allottees and more than 418 unleased allotments, associated with 22,000 Allottees, in the area of the Withdrawal. See Enduring Exhibit 1 (Letter, 24th Navajo Nation Council, Office of the Speaker, Seth Damon, to Chair Raul Grijalva (D-AZ-03) (March15, 2022)). Without the ability to lease federal minerals and obtain Mineral Leasing Act (MLA) rights-of-way within the Withdrawal area, the Allottees' minerals will not be developed. The Withdrawal will prevent the development of these Allottee minerals for three reasons-realty, technical and financial. 4 In 2015, the Federal Indian Minerals Office distributed \$96 million to 20,835 individual Allottees. U.S. Department of the Interior, Office of Inspector General, Bureau of Indian Affairs, Federal Indian Minerals Office, Report No.: 2015-EAU-079 (February 2017). https://www.oversight.gov/sites/default/files/oig-reports/FinalAudit_BIAFederalIndianMineralsOffice_02032017_Public.pdf . See also e.g. Diné C.A.R.E. v. Bernhardt, 923 F. 3d 831 (10th Cir. 2019), Intervenor WPX Energy Production, LLC (properties now operated by Enduring Resources IV, LLC) Affidavit of Kenley H. McQueen, Dkt. 41-1 ("in the last several months [2015], the average royalties WPX has paid to Indian allottees and tribes has ranged between \$50,000 to \$100,000 per month") and Intervenor Encana Oil & Gas (USA) Affidavit of Tom Lawlor, Dkt. 41-3 ("royalties of up to \$126,000 per month are paid to Indian allottees."). - First, the Allottee minerals are held in a checkerboard (Fed/allottee) ownership pattern in a largely undeveloped, infrastructure-poor area of the San Juan Basin. Accessing Allottee minerals without adjacent federal lands and minerals is not possible. - Second, the resource target is the Mancos-Gallup shale and tight sand formations - a thin reservoir best developed through long horizontal laterals that require large blocks of contiguous properties. Without federal leases, horizontal drilling will not be possible. Vertical drilling would bring outsized environmental impacts and less recovery. - Third, developing a tight sand formation with horizontal drilling and multistage completions is costly and requires a sufficient resource recovery to support its use. With only Allottee minerals available in the Withdrawal area, that resource will generate insufficient income to support the costs of development. Moreover, the ten-mile Withdrawal is not necessary - a resource barrier, the end of the Mancos-Gallup oil resource, at six miles from CCHNP, precludes development any closer to the Park. In addition, as the BLM and National Park Service ("NPS") previously found, a five-mile buffer as proposed by the Navajo Nation Council can protect the CCHNP resource values.
Watson	Rebecca	Enduring Resources IV, LLC	Fluid	The Geology Supports the Navajo Nation Compromise Five-mile Buffer For geological reasons, the Navajo Nation Council's proposed five-mile buffer is a better balance of the Secretary's trust responsibilities to the Allottees and the Secretary's Withdrawal "purpose" to protect these public lands "from industrial impacts associated with oil and gas development activities...." 87 Fed. Reg. 786. At six miles from the CCHNP boundary, the geology changes dramatically to end the Mancos-Gallup unconventional oil play. The Mancos-Gallup resource simply does not exist south of a NW-SE trending line roughly correlating to where the Fruitland Formation outcrops on the southern end of the San Juan basin. See Enduring Figure E (depiction of Fruitland Formation outcrop in green). The Fruitland Formation outcrop coincides with the thermally mature extent of the Mancos-Gallup formation. South of the Fruitland Formation outcrop, closer to the CCHNP, the Mancos-Gallup sediments are not buried deep enough for the conversion of organic matter into oil to have occurred. Water, not oil, largely fills the reservoir at this location. Moving north from the Fruitland outcrop and into the Basin, the Mancos-Gallup interval is buried deeper and deeper at a rate of about 400ft/mile. The increasing burial depth of the Mancos-Gallup formations to the north results in increased temperature and pressure and the associated conversion of organic matter into the oil that makes the oil play work where it does. See e.g. 2020 DEIS, App. I, RFD, Figure 10. This geologic fact informed the Navajo Nation's willingness to compromise on a five-mile buffer; the Navajo Allottees were not giving away future royalty income, because there was no oil resource to be recovered within six miles of the CCHNP boundary. Similarly, this geologic fact will protect the Secretary's Withdrawal "purpose" to keep oil and gas development further away from the CCHNP.
Watson	Rebecca	Enduring Resources IV, LLC	Fluid	Developing a Tight Sand Formation is Costly and Requires Sufficient Recovery. A 1.5 mile horizontal well costs approximately \$6.4 million. Providing the necessary access roads, pipelines, water handling facilities and power lines for this undeveloped area would add several million dollars to that cost. In order to justify the investment required to construct multi-well pads, surface facilities, water recycling facilities and pipelines, operators must pool allottee leases with adjacent federal leases in large federal units managed by the BLM. The economies of scale achieved by modern horizontal drilling technology in large federal units efficiently maximizes the extraction of tight oil reserves. Without the inclusion of federal leases, the cost to construct this infrastructure could not be justified, even with high oil prices. In the post-COVID era of inflated costs for all drilling materials, supply chain disruptions, the scarcity of skilled employees and international uncertainty around oil, we are not in the "best of circumstances." The ten-mile Withdrawal area will prevent the development of the Allottee minerals within that area. The Navajo Nation Council's five-mile buffer proposal better balances the property interests of the Navajo Allottees and the interest in adding additional protections to the CCHNP.
Watson	Rebecca	Enduring Resources IV, LLC	Fluid	The Withdrawal area has a checkerboard ownership pattern of Navajo Allottee fee land and the federal lands. See Enduring Figure A. In order to access the Allottee parcels by road, power line, pipeline, or horizontal wellbore an operator by necessity must also access federal surface and federal minerals. BLM has acknowledged that this area lacks critical and expensive infrastructure (pipelines, power lines and roads) "necessary to develop the Mancos/Gallup Formations...." BLM has also recognized that the checkerboard pattern of ownership makes it "more difficult to permit a road or pipeline that crosses both federal and individual Indian allotment land. . . ." The southern portion of the planning area, near Lybrook and Cuba, contains remote areas that lack infrastructure, such as water, oil, and gas pipelines; power lines; and resource, local, and collector roads. These facilities are necessary to develop the Mancos/Gallup Formations in the area. . . . Checkerboard land ownership in the area of the Mancos/Gallup Formations, particularly in individual Indian allotment lands, is creating further difficulties for adding infrastructure and facilitating development. This is because it is more difficult to permit a road or pipeline that crosses both federal and individual Indian allotment land than it is to permit one that crosses only BLM-managed land. Permission for the road or pipeline must be granted by each party whose land would be crossed, and both BIA and BLM permits must be secured 2020 DEIS Section 3.5.2, p. 3-169. The Withdrawal will prohibit leasing of federal minerals and issuance of MLA rights-of-way for roads and wellbores; it will strand the Allottee minerals within the ten-mile "no federal leasing" buffer around CCHNP. See also 2020 DEIS, App. A, Figures 2 8 through 2-10 (Alternatives A and B Maps) depicting the impact on Allottee minerals from a ten-mile "no federal leasing" buffer
Watson	Rebecca	Enduring Resources IV, LLC	Fluid	Development of the Mancos-Gallup Formations Relies on Horizontal Drilling The focus of development in this area of the San Juan Basin are two unconventional formations - the Mancos shale and the Gallup sandstone. In the Withdrawal area of the Basin, the Mancos-Gallup tight sand reservoir is thin, approximately 150 feet, and has low porosity and permeability. BLM in the 2020 DEIS acknowledged that the Mancos-Gallup formations in the Withdrawal area would be developed through horizontal drilling. BLM, in its Withdrawal Petition, confirms that development of these formations relies on horizontal drilling "which may necessitate drilling through several leaseholds in the 'checkerboard' land ownership area." The BLM announced the preparation of the Mancos-Gallup Environmental Impact Statement ("EIS") in 2020, "to examine changing oil and gas development patterns in the Mancos Shale and Gallup Sandstone (Mancos-Gallup) formations, including innovations in horizontal drilling and multistage hydraulic fracturing." 2020 DEIS at ES-1. See also, 2020 DEIS App. I, RFD, at p. 2 ("future activity will be primarily horizontal drilling for oil in the Mancos-Gallup play . . ."); BLM Withdrawal Petition, at p. 6, ("By far the most productive oil-bearing formation in the area is the Gallup. . . . Recent activities involve drilling horizontal wells over a mile in length which may necessitate drilling through several leaseholds in the "checkerboard" land ownership area.") Without the federal leases, it is not technically feasible to develop just the Allottee leases. Unleased federal minerals would block access to Allottee minerals as illustrated in Enduring Figure B. Vertical drilling of the Allottee lease parcels is not a viable option. Prior to horizontal drilling, tight sand reservoirs were developed using tight spacing patterns down to one well on every 10-20 acres. The surface disturbance was considerably greater than modern, horizontal well development. Vertical well development in tight sand formations is no longer acceptable from an environmental perspective. See Enduring Figure C (Vertical well development) and Figure D (Horizontal well development) comparing surface impacts from vertical and horizontal well development. Moreover, a well's productivity is directly correlated to the number of feet the wellbore is in contact with in the reservoir. A vertical well drilled through 150-foot thick reservoir only will have 150 feet of contact with the reservoir. In contrast, a one-mile horizontal well drilled through the middle of the same reservoir will have 5000 feet of contact and a two-mile lateral will access 10,000 feet. Without federal leases and the ability to use horizontal drilling in contiguous tracts to maximize resource recovery, development of the Allottee minerals will not occur.
Cottrell	Sarah	State of New Mexico, Energy, Minerals and Natural Resources Department	Lands and realty	While we support this long overdue action, we must note that the land tenure around Chaco is incredibly complex with a mix of state, private, tribal, allotted, and federal lands and minerals, and implicate an equally diverse range of stakeholders, legal requirements, and use expectations. As such, consistent with applicable legal requirements, the final withdrawal needs to respect valid existing rights and needs to carefully balance the protection of the withdrawn lands with those seeking to exercise their valid existing rights, including on the approximately 71,000 acres of federal minerals already subject to federal mineral leases or the state, private, tribal, and allottee owned minerals within the proposed 10-mile buffer area. That said, any development in that area must be managed and regulated to minimize potential impacts to natural and cultural resources.
Eaton	Marietta	N/A	Lands and realty	Valid existing rights are BLM permits issued to industry that allow the extraction of oil and gas, but not disposal under the US mining laws on surface and subsurface oil and gas leases across the Farmington Field Office (FFO) of BLM conjunction. As the lead agency BLM oversees the surface and subsurface activities and must work cooperation with the BIA representing Navajo Tribal Trust Lands for mineral extraction, Chaco Cultural National Park, and New Mexico State Lands which requires a collaborative process to address the concerns unique to the mission of those parcels under various jurisdictions. Please remember that valid existing rights are only one of the multiple-use practices of the Bureau and the other resources are equal, if not more important, such as the protection of cultural resources in this instance.

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Glasenapp	Logan	New Mexico Wild	Lands and realty	Inaccurate and misleading information continues to circulate concerning the nature and impact of the proposed withdrawal. In the following section, we respond to three statements that, in our opinion, are especially problematic: Inaccurate/Misleading Statement #1: The proposed withdrawal will inhibit oil and gas development on non-federal lands. The proposed withdrawal applies exclusively to federal lands and minerals, just as the New Mexico State Land Office's existing withdrawal applies exclusively to state lands and minerals.4 It would not apply to or in any way affect the rights of individuals or entities that possess an interest in non-federal lands within the proposed withdrawal area, including allotment lands. 4 Exec. Order 2019-002 - Moratorium on Oil and Gas Leasing in the Greater Chaco Area (Apr. 27, 2019). There is substantial on-the-ground evidence for this conclusion. According to BLM, "there have not been any new leases issued [within the proposed withdrawal area] since 2011."5 While "there have been multiple lease parcels nominated over the past ten years within the withdrawal area," those parcels were all deferred because of the need to complete tribal consultation and comply with other legal obligations.6 Additionally, since 2019, Congress has withheld funding for any oil and gas leasing activities on federal lands within the proposed withdrawal area.7 Thus, for over ten years, BLM has managed the proposed withdrawal area as if a withdrawal had been in place. 5 BLM, Petition/Application for Withdrawal 3. 6 See, e.g., BLM, July 2013 Competitive Oil and Gas Lease Sale EA 12 (deferring multiple parcels within the proposed withdrawal area because "Tribal Consultation in Progress"). 7 Press Release, NM Delegation Secures Protections for Chaco Canyon Area in Government Funding Bill (Dec. 19, 2019). Yet, oil and gas development in the proposed withdrawal area continued during this timeframe without apparent interruption. Since 2012, BLM has approved approximately nineteen drilling permits for previously-issued leases within the proposed withdrawal area.8 Further, since 2012, oil and gas companies have drilled at least thirty-three new wells in the proposed withdrawal area, including at least four that access Navajo-owned oil and gas resources.9 Finally, over the past four years, the Federal Indian Minerals Office has planned at least two oil and gas lease sales for allotment lands that included numerous parcels within the proposed withdrawal area.10 8 Based on data downloaded from BLM's AFMSS on Apr. 13, 2022. 9 Based on data downloaded from the New Mexico Oil Conservation Division's website on Apr. 13, 2022. 10 Federal Indian Minerals Office (FIMO), Oil and Gas Lease Sale, April 2018 EA 39; FIMO, Oil and Gas Competitive Lease Sale EA 2021 9 (Sept. 2021).
Moquino	Christopher	Pueblo de San Ildefonso	Lands and realty	APCG and the Navajo Nation agreed to advocate for withdrawal of federal land from future mineral leasing and development within the approximately 10-mile withdrawal area, and we further agreed to preserve the rights of the Navajo Nation and Navajo allottees to develop on their land even within this withdrawal area. APCG has never strayed beyond these agreed-upon protections and indeed the protections contemplated by DOI's administrative withdrawal go no further than these agreed upon protections, as described above. It would not affect valid existing rights, and thus ongoing mineral development could continue-even on public lands otherwise located within the withdrawal area and thus withdrawn. 3 It would also not affect any lands that do not qualify as public lands, such as the Navajo Nation's lands, Navajo allottees' lands, the State of New Mexico's lands, 4 and privately-owned lands.
Nez	Jonathan	The Navajo Nation	Lands and realty	The Navajo Land Department (NLD) expressed concerns about the actual acreage and statuses of the land listed in the legal description provided in the January 6, 2022 Federal Register notice. After a thorough review of the legal description provided in the federal register; the NLD noted inconsistencies. After receiving the Federal Register Notice dated January 6, 2022 and BLM Map titled, "APPENDIX B: CHACO CULTURE NATIONAL HISTORIC PARK AREA WITHDRAWAL", the NLD created their own map titled CC4310FB. The NLD identified the withdrawal sections listed in the notice to create map CC431FB. Using this map, the NLD discovered that some of the sections listed in the withdrawal were actually Navajo Nation Fee land, Patent Exchange Land, and Navajo Allotments. Upon completion of the map re-creation, the NLD also discovered an acreage discrepancy that resulted in a larger acreage listed by BLM in comparison to the acreage determined by the NLD. Additionally, the NLD continues to assist Navajo Allottees with information because Navajo Allottees have expressed challenges getting in contact with BIA and obtaining information from BIA.
Nez	Jonathan	The Navajo Nation	Lands and realty	The Navajo Nation has been working on a Land Consolidation in Eastern Navajo Agency (ENA) for many years. This project will interfere with the land consolidation and management effort in ENA. This project will make the land more checker-boarded especially if other tribes are given a say into the management of these lands over the objection of the Navajo Nation.
Vicente	Randall	Pueblo of Acoma	Lands and realty	It is important to emphasize that Acoma and the APCG have never strayed beyond these agreed-upon protections that we mutually committed to with the Navajo Nation. The Pueblos do not and have never advocated for withdrawing other Tribes' land or Native people's allotment land from development, and we have supported all efforts to make clear that a withdrawal would not prevent Tribal or allottee landowners from developing on their land. Further, we have limited our request to withdraw federal land to only a small, critical area of the Greater Chaco Region. As the entire area is a sacred landscape, we view withdrawal of the 10-mile withdrawal area as a minimum. The protections contemplated by DOI's administrative withdrawal go no further than those protections originally agreed upon as part of the government-to-government understanding of the Pueblos and the Navajo Nation, as described above. The withdrawal would be limited to a 10-mile area, affect only federal land, not apply to Tribal or allotment land, and it would not prevent ongoing development even on federal land in the withdrawal area.
Werito	George	Ojo Encino Chapter	Lands and realty	The Navajo Nation government along with many of the chapter governments directly affected by this action are not in agreement with the current proposed federal action. This raises major UNDRIP concerns. Ojo Encino Chapter is supportive of protections for Chaco and recognizes that governmental power holders and their supporters also support this NEPA process; thus, is likely to succeed based on the pre-decisional nature of NEPA in the checkerboard. More importantly, the Chapter believes that the proposed NEPA process continues to set a dangerous precedent of degrading Navajo sovereignty, ignoring Navajo needs, sowing animosity among Navajos, and creating further Chaos within the checkerboard region of the Eastern Agency. The Chapter recommends that: 1. BLM finally begin disposing of federal lands/minerals within the contiguous boundaries of Eastern Agency to the Navajo Nation; 2. BLM does not engage in any NEPA processes that involve extractive industries on "BLM" lands/minerals within the contiguous boundaries of the Eastern Agency until said lands and minerals are disposed to the Navajo Nation; 3. Congress takes actions to empower the Navajo Nation and reduce chaos within the checkerboard region of the Navajo Eastern Agency by ensuring lands and minerals are given back to the Navajo Nation; 4. That while such transfer processes are underway: an equitable revenue sharing mechanism is established to ensure monies generated by BLM oil/gas leases/development can provide funds directly for Navajo communities. Additionally, that a Navajo Eastern Agency Management Zone is established to provide better planning and input for federal land use planning processes;
Howard	Cliff	N/A	Grazing	In addition we need more research devoted to understanding how cattle grazing degrades these fragile desert sites.
Barnett	Gary	Grant County Archaeological Society	Visual resources and dark skies	In addition, CCNHP is an International Dark Sky designation, and the 10-mile proposed withdrawal area contains a great deal of the Park's viewshed. These values must be protected from the degradation caused by mineral leasing and extraction to ensure continued use and enjoyment of the Park, including appreciation of its cultural, archaeological, and natural resources.
Bowannie	Chantel	Zuni Pueblo	Visual resources and dark skies	In addition to contributing to the destruction and degradation our plant life and wildlife, the existing oil and gas drill sites contribute to the noise and light pollution of the region, which is a shame because Chaco Culture National Historic Park is known for its archaeoastronomy like the sun dagger on Fajada Butte, the alignment of some of the great houses, not to mention that Chaco Culture National Historic Park is a designated Dark Sky park. Light pollution from drill sites already disrupts the night sky, but an increase in drill sites will add to the light pollution. Further, noise from the drill sites upsets the setting of Chaco Culture National Historic Park and detracts from the feeling of wonder, splendor, and peace that has many have come to know Chaco for.
Eaton	Marietta	N/A	Visual resources and dark skies	-Across the Farmington Field Office (surface and subsurface) BLM and BIA should require viewshed and audioscape analysis be conducted prior to any ground disturbance (considering impact on homes and local transportation corridors) and the importance of protecting night skies when developing plans for ground-disturbing activities on Park Service, BLM, and BIA before issuing surface-disturbing activities and issuing permits, in cooperation with those agencies.
Eaton	Marietta	N/A	Visual resources and dark skies	-Prioritize reclamation of well pads, access roads, and other oil and gas infrastructure to restore viewsheds from Chaco Culture NHP and nearby cultural sites. -Prioritize reclamation of well pads, access roads, and other oil and gas infrastructure to restore or enhance viewsheds and audiosheds from Chaco Culture NHP and nearby cultural sites to maintain a sense of the prehistoric landscape and limiting visibility of development infrastructure. -Protect dark night skies by limitations on flaring and artificial lighting.
Glasenapp	Logan	New Mexico Wild	Visual resources and dark skies	In addition to the harm unchecked industrial development can have on dark skies, a 2018 study out of Cornell/Iowa showed that park visitation drops 8% or more when pollution is high.81 81 Air pollution and visitation at U.S. national parks. Science Advances. 4.eaat1613.10.1126/sciadv.aat1613. "Air Quality Resource Values" or AQRVs, are parks' identified lists of values that the National Park Service is concerned about being impacted by pollution - including dark skies and ecosystems.82 According to the National Park Service, more than 3,300 after dark visitor contacts are recorded annually at Chaco Culture National Historical Park.83 Sky glow adversely impacts nighttime scenic quality and visual resources by inhibiting park visitors' ability to view celestial objects. Disruption of the natural cycles of light and dark also have detrimental effects on wildlife, including bats and the insects on which they feed. Bright flaring operations less than 10 miles from Chaco are often easily discernible. This proposal will safeguard air-quality related resources by better regulating this light and air pollution. 82 Air Quality Related Values in National Parks. https://www.nps.gov/articles/aqrv-assessment.htm#:~:text=Air%20quality%20related%20values%20(AQRVs,%2C%20ecological%2C%20or%20recreational%20resource.&text=particles%20affecting%20visibility%2C%20and 83 Chaco Night Sky Program. https://www.nps.gov/chcu/playyourvisit/nighttsky.htm#:~:text=Over%203%2C000%20visitors%20and%20school,to%20image%20deep%2Dspace%20objects.
Glasenapp	Logan	New Mexico Wild	Visual resources and dark skies	Chaco has long been considered by many night sky enthusiasts to be one of the best places in America to stargaze. Today, amidst this ancient landscape, visitors can experience the same dark sky that the Ancestral Puebloans with ties to Chaco Culture observed a thousand years ago. The protection of dark night skies is a priority at Chaco not only for the enjoyment of star-gazing visitors, but for the natural environment as well. Nocturnal wildlife relies on darkness for survival, and the natural rhythms of humans and plants depend on an unaltered night sky. And night skies and astronomy are essential to understanding and fully engaging with the formation and continued significance of Chacoan sites. Archaeoastronomer Anna Sofaer, who studied the sites for 20 years beginning in 1977, has documented the intricate astronomical system in the design of this vast Puebloan site, extending beyond the Park boundaries. Astronomical alignments have been noted in many sites at Chaco. Seven buildings in Chaco Canyon have alignments with the Maximum and Minimum risings and settings of the Moon. No other culture in the world is known to build structures in alignment with this long cycle. 79 79 Sofaer, Anna. Chaco Astronomy: An Ancient American Cosmology. Ocean Tree Books, 2008.
Glasenapp	Logan	New Mexico Wild	Visual Resources	Chaco is also a popular destination for stargazing, receiving International Dark Sky recognition in 2013. In response to that, the park has adopted rules to best retain that certification and its character as a Dark Sky park. Mineral production brings light pollution that can wash out the night sky and limit the ability to stargaze. Prohibiting mineral production within 10 miles of the park is an important and necessary step to protecting the Dark Sky nature of Chaco.
Schmitt	Randal	N/A	Visual resources and dark skies	Chaco is one of the few places on this planet far enough from the light pollution of cities and other industrial development to enjoy truly dark skies needed to experience the night sky as the Chacoan's did a thousand years ago. Oil and gas exploration is likely to bring bright lights at night to destroy an otherwise pristine night sky.
Shubatt	Mark	N/A	Visual resources and dark skies	Furthermore, the additional light created by gas flares and equipment lighting would further destroy the areas Dark Sky qualities. This area is one of our countries few remaining truly dark skies at night, preserving the public's ability to witness, enjoy, and research our precious natural resource of a dark and star filled sky. Even now, light pollution from nearby gas and oil wells, and the towns of Bloomfield and Farmington outshine astronomical sights that were visible only a decade ago.
Studer	Joseph	N/A	Visual resources and dark skies	Also, to protect the dark sky status for Chaco there should be no gas flaring within 50 km of the park.
Torres	Theodore	N/A	Visual resources and dark skies	The Dark sky status of Chaco would be threatened by nearby development.
Bowannie	Chantel	Zuni Pueblo	Infrastructure	Service roads have impacted the environment exponentially. Each mile of service road brings destruction- impacting not only the land that it traverses, but the plant life that is trampled, the wildlife in their diminished habitat, and through the expanded reach of humans and our propensity to litter/bring trash.
Eaton	Marietta	N/A	Infrastructure	BLM owes it to the public to "Honor Chaco" by conducting state of the art aerial documentation, such as LiDar surveillance across the withdrawal zone before new development of oil and gas roads, pads, and infrastructure receive BLM approval. I recommend BLM conduct long-term transportation planning to limit the proliferation of roads, as seen across the rest of the FFO.
Mitchell	Mark	All Pueblo Council of Governors	Infrastructure	According to BLM's 2018 "Reasonable Foreseeable Development Scenario," it is anticipated that (absent the withdrawal) over the next 30 years, approximately 3,200 new oil and gas wells, both horizontal and vertical, would be likely to be developed.20 A total of 56,500 acres of surface disturbance has already occurred, and up to nearly 20,000 additional acres could be disturbed by 2037.21 Notably, this report does not account for surface disturbance from related infrastructure needed for development (roads, pipelines, etc.). This is a critical omission as these activities have the capacity to inflict lasting, permanent harm to Tribal cultural resources and sacred sites and, by extension, to Pueblo people.
Nez	Jonathan	The Navajo Nation	Infrastructure	Furthermore, the restrictions to be put in place as a result of this withdrawal will affect or hamper infrastructure developments. As it is today, the Navajo Nation has to go through many approvals for developments in this area because of the checkerboarded pattern of land ownership. I visited an elderly man north of Chaco Canyon about a year ago and saw the need for water and powerlines to be constructed to his home.
Atencio	Mario	N/A	Mailing list or nothing to code	Would you like to be added to the project mailing list? Aoo' (Yes)
Platero	Leta	N/A	Mailing list or nothing to code	Would you like to be added to the project mailing list? Yes

Last Name	First Name	Organization Name	Comment Code Name	Comment Text
Sims	Jonathan	N/A	Public meetings	The public meetings for the 10-mile withdrawal, led by Bureau of Land Management personnel, continue to only be a boondoggle for the people and groups that have fought hard to be heard. Translation issues, disregard of stakeholders' voices and the commenting protocols constantly being changed are only some of the issues we are finding in the 10-mile Withdrawal Process

Appendix B

Notice of Intent

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Establish a National Strategy for the Manufacture, Allocation, and Distribution of Drug Products, Drug Substances, and Associated Medical Devices to respond to COVID-19, the Plan of Action to Establish a National Strategy for the Manufacture, Allocation, and Distribution of Medical Devices to respond to COVID-19, and the Plan of Action to Establish a National Strategy for the Manufacture, Allocation, and Distribution of Medical Gases to respond to COVID-19—were finalized.⁶ These plans of action established several sub-committees under the Voluntary Agreement, focusing on different aspects of each plan of action.

On October 15, 2021, the sixth plan of action under the Voluntary Agreement—the Plan of Action to Establish a National Strategy for the Coordination of National Multimodal Healthcare Supply Chains to Respond to COVID-19—was finalized.⁷ This plan of action established several sub-committees under the Voluntary Agreement, focusing on different transportation categories.

The meetings are chaired by the FEMA Administrator's delegates from the Office of Response and Recovery (ORR) and Office of Policy and Program Analysis (OPPA), attended by the Attorney General's delegates from the U.S. Department of Justice, and attended by the Chairman of the Federal Trade Commission's delegates. In implementing the Voluntary Agreement, FEMA adheres to all procedural requirements of 50 U.S.C. 4558 and 44 CFR part 332.

Meeting Objectives: The objectives of the meetings are as follows:

1. Convene the Sub-Committee to Define Requirements under the National Multimodal Healthcare Supply Chains Plan of Action to establish priorities related to the COVID-19 response under the Voluntary Agreement.
2. Gather Sub-Committee Participants and Attendees to ask targeted questions for situational awareness.
3. Identify pandemic-related supply chain issues, information gaps, and areas for potential additional discussion.
4. Identify potential Objectives and Actions which correspond to Sub-Committees. These will be held for further discussion under those Sub-Committees.

Meetings Closed to the Public: By default, the DPA requires meetings held to implement a voluntary agreement or

plan of action be open to the public.⁸ However, attendance may be limited if the Sponsor⁹ of the voluntary agreement finds that the matter to be discussed at a meeting falls within the purview of matters described in 5 U.S.C. 552b(c), such as trade secrets and commercial or financial information.

The Sponsor of the Voluntary Agreement, the FEMA Administrator, found that these meetings to implement the Voluntary Agreement involve matters which fall within the purview of matters described in 5 U.S.C. 552b(c) and the meetings are therefore closed to the public.

Specifically, these meetings may require participants to disclose trade secrets or commercial or financial information that is privileged or confidential. Disclosure of such information allows for meetings to be closed to the public pursuant to 5 U.S.C. 552b(c)(4).

The success of the Voluntary Agreement depends wholly on the willing participation of the private sector participants. Failure to close these meetings to the public could reduce active participation by the signatories due to a perceived risk that sensitive company information could be released to the public. A public disclosure of a private sector participant's information executed prematurely could reduce trust and support for the Voluntary Agreement.

A resulting loss of support by the participants for the Voluntary Agreement would significantly hinder the implementation of the Agency's objectives. Thus, these meeting closures are permitted pursuant to 5 U.S.C. 552b(c)(9)(B).

Deanne Criswell,
Administrator, Federal Emergency
Management Agency.

[FR Doc. 2021-28596 Filed 1-5-22; 8:45 am]

BILLING CODE 9111-19-P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLNMF000000.L1440000.ET0000
LXSSG0270000 223L1109AF; NMNM-
144042]

Notice of Proposed Withdrawal and Public Meetings; San Juan County, NM

AGENCY: Bureau of Land Management, Interior.

⁸ See 50 U.S.C. 4558(h)(7).

⁹ “[T]he individual designated by the President in subsection (c)(2) [of section 708 of the DPA] to administer the voluntary agreement, or plan of action.” 50 U.S.C. 4558(h)(7).

ACTION: Notice of proposed withdrawal.

SUMMARY: At the request of the Bureau of Land Management (BLM) and subject to valid existing rights, the Secretary of the Interior proposes to withdraw 351,479.97 acres of public lands from location and entry under the United States mining laws and from leasing under the mineral leasing laws, but not disposal under the mineral materials laws, for a 20-year term. This notice segregates the lands for up to 2 years from location and entry under the United States mining laws and from leasing under the mineral leasing laws, subject to valid existing rights, initiates a 90-day public comment period on the withdrawal application, and notifies the public that one or more public meetings will be held regarding the application.

DATES: Comments and public meeting requests must be received by April 6, 2022. In-person public meetings regarding the withdrawal application will be held on February 23, 2022, from 3:00–4:30 p.m. and 6:00–7:30 p.m. at San Juan College Henderson Fine Arts Building, 4601 College Boulevard, Farmington, New Mexico. All current guidelines issued by the Centers for Disease Control and Prevention and Department of the Interior COVID-19 safety precautions will be strictly enforced. Members of the public are required to pre-register for the in-person event by using the information provided in the **FOR FURTHER INFORMATION**

CONTACT section of this notice. A virtual public meeting will take place on February 24 from 6:00–7:30 p.m. via the Zoom platform. To register for the virtual session, visit https://blm.zoomgov.com/webinar/register/WN_79HAMxoxQ-GXRVRBXI5U0w. A notice for public meeting(s) regarding the withdrawal application will be announced in the local newspaper and on the agency websites at least 30 days before the meeting(s).

ADDRESSES: All comments should be sent to Sarah Scott, CCNHP Area Withdrawal, Bureau of Land Management Farmington Field Office, 6251 College Blvd. Suite A, Farmington, NM 87402.

A map and other information related to the withdrawal application are available at the Bureau of Land Management Farmington Field Office, 6251 College Blvd., Suite A, Farmington, New Mexico 87402. Details are also available on the project ePlanning website: <https://eplanning.blm.gov/eplanning-ui/project/2016892/510>.

FOR FURTHER INFORMATION CONTACT: Sarah Scott, BLM Farmington Field

⁶ See 86 FR 27894 (May 24, 2021). See also 86 FR 28851 (May 28, 2021).

⁷ See 86 FR 57444 (Oct. 15, 2021).

Office, (505) 564-7689 or sscott@blm.gov, during regular business hours, 8:00 a.m. to 4:30 p.m., Monday through Friday, except holidays. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service (FRS) at (800) 877-8339 to contact Ms. Scott. The FRS is available 24 hours a day, 7 days a week, to leave a message or question. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: The BLM has filed a petition/application requesting the Secretary of the Interior to withdraw public lands and interests in lands (excluding lands with federally owned fractional mineral interests) situated within the boundaries of the area depicted on the map submitted with the application, titled Appendix B: Chaco Culture National Historical Park Area Withdrawal, dated November 30, 2021. The Secretary has approved the BLM's petition for approval to file its withdrawal application and proposed the withdrawal as requested. Following consideration of environmental and other analyses prepared by the BLM in support of its application, the Secretary will decide whether to establish the withdrawal.

The purpose of the proposed withdrawal would be to protect these public lands and the greater connected landscape with a rich Puebloan, Tribal Nations, and cultural legacy in northwestern New Mexico from industrial impacts associated with oil and gas development activities and from adverse effects of locatable mineral exploration and mining, subject to valid existing rights. This proposed withdrawal area holds a deep meaning for the Indigenous peoples whose ancestors lived, worked, traded, and thrived in this high-desert community. Existing uses of the public lands may continue in accordance with their terms and conditions (except for the location or relocation of mining claims and the sale of new oil and gas leases) during the segregation period, including but not limited to livestock grazing, and lawful ingress and egress to any valid or patented mining claims and mineral leases that may exist on these lands. There may be continued use of all public lands and lawful access to non-Federal lands and interest in lands; current recreational uses including hunting, camping and day use; and all commercial uses being conducted under special use permits. Temporary uses that may be permitted during the segregation period are leases, licenses, permits, rights-of-way, and other uses consistent with the 2003 Farmington

Resource Management Plan, as amended.

The legal description is as follows:

New Mexico Principal Meridian, New Mexico

- T. 20 N., R. 6 W.,
 Sec. 6, lots 3 thru 7, SE $\frac{1}{4}$ NW $\frac{1}{4}$, and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Sec. 7;
 Sec. 8, W $\frac{1}{2}$;
 Secs. 17 thru 20 and sec. 30.
 T. 21 N., R. 6 W.,
 Sec. 18, lot 4;
 Sec. 19, lots 3 and 4, E $\frac{1}{2}$ SW $\frac{1}{4}$, and SW $\frac{1}{4}$ SE $\frac{1}{4}$;
 Sec. 30, lots 1 thru 4, W $\frac{1}{2}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, and SE $\frac{1}{4}$;
 Sec. 31, lots 1 thru 4, NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Sec. 32, SW $\frac{1}{4}$ NW $\frac{1}{4}$ and W $\frac{1}{2}$ SW $\frac{1}{4}$.
 T. 19 N., R. 7 W.,
 Sec. 1, lots 5 thru 7 and SW $\frac{1}{4}$ SE $\frac{1}{4}$;
 Sec. 5, S $\frac{1}{2}$;
 Sec. 6, lots 1, 2, 6, and 7, S $\frac{1}{2}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, and SE $\frac{1}{4}$;
 Secs. 7 and 8;
 Sec. 11, S $\frac{1}{2}$;
 Sec. 12, lots 1 and 2, W $\frac{1}{2}$ NE $\frac{1}{4}$, and NW $\frac{1}{4}$;
 Secs. 17 thru 19;
 Sec. 20, N $\frac{1}{2}$ and SW $\frac{1}{4}$;
 Sec. 21;
 Sec. 22, W $\frac{1}{2}$;
 Sec. 27, NW $\frac{1}{4}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$, and SW $\frac{1}{4}$ NW $\frac{1}{4}$;
 Sec. 28, N $\frac{1}{2}$, SW $\frac{1}{4}$, and N $\frac{1}{2}$ SE $\frac{1}{4}$;
 Secs. 29 thru 31.
 T. 20 N., R. 7 W.,
 Secs. 2 and 3;
 Sec. 4, SW $\frac{1}{4}$;
 Secs. 5 thru 7;
 Sec. 8, N $\frac{1}{2}$ and SW $\frac{1}{4}$;
 Secs. 9 thru 12;
 Secs. 17, 19, 21, and 29;
 Sec. 30, lots 1 thru 4, E $\frac{1}{2}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, and SE $\frac{1}{4}$;
 Sec. 31;
 Sec. 32, N $\frac{1}{2}$ and SW $\frac{1}{4}$;
 Sec. 33, SW $\frac{1}{4}$.
 T. 21 N., R. 7 W.,
 Sec. 2, lot 4, S $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, and S $\frac{1}{2}$ SE $\frac{1}{4}$;
 Secs. 3 thru 5;
 Sec. 6, lots 1 and 2, S $\frac{1}{2}$ NE $\frac{1}{4}$, and SE $\frac{1}{4}$;
 Secs. 7 thru 11;
 Sec. 12, SW $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$, and SW $\frac{1}{4}$ SE $\frac{1}{4}$;
 Sec. 13, NW $\frac{1}{4}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$, and S $\frac{1}{2}$;
 Sec. 14 and secs. 15 thru 18;
 Sec. 19, lots 1 thru 4, NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Sec. 20, N $\frac{1}{2}$;
 Secs. 21 thru 23;
 Sec. 24, SW $\frac{1}{4}$;
 Sec. 25, W $\frac{1}{2}$;
 Sec. 26, N $\frac{1}{2}$ and SE $\frac{1}{4}$;
 Sec. 27, N $\frac{1}{2}$;
 Sec. 28, N $\frac{1}{2}$ and SW $\frac{1}{4}$;
 Sec. 29, NE $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 32, NE $\frac{1}{4}$, and S $\frac{1}{2}$;
 Sec. 33, W $\frac{1}{2}$;
 Sec. 35, E $\frac{1}{2}$;
 Sec. 36, N $\frac{1}{2}$ and SE $\frac{1}{4}$.
 T. 22 N., R. 7 W.,
 Sec. 28, S $\frac{1}{2}$ SW $\frac{1}{4}$;

- Sec. 29, S $\frac{1}{2}$ NW $\frac{1}{4}$ and S $\frac{1}{2}$;
 Secs. 30, 31, and 33;
 Sec. 34, SW $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$, and S $\frac{1}{2}$ SE $\frac{1}{4}$.
 T. 19 N., R. 8 W.,
 Secs. 1 and 2;
 Sec. 3, lots 3 and 4, S $\frac{1}{2}$ NW $\frac{1}{4}$, and S $\frac{1}{2}$;
 Sec. 9, E $\frac{1}{2}$ and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Secs. 10 thru 15;
 Sec. 16, lots 3 thru 7, NE $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, and N $\frac{1}{2}$ SE $\frac{1}{4}$;
 Sec. 18, lots 3 and 4 and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Sec. 19;
 Sec. 20, N $\frac{1}{2}$ and SW $\frac{1}{4}$;
 Sec. 21, S $\frac{1}{2}$ SE $\frac{1}{4}$;
 Secs. 23 thru 25, 27, and 29;
 Sec. 30, lots 1 and 4, E $\frac{1}{2}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$, and SE $\frac{1}{4}$ SW $\frac{1}{4}$;
 Secs. 33 thru 35.
 T. 20 N., R. 8 W.,
 Tracts 37, 40, 41, 48, 49, 52 thru 55, 58, 61 thru 69, 73, 77, and 78;
 Tracts 85, 86, 92, 94 thru 98, 102, 104, and 105.
 T. 21 N., R. 8 W.,
 Secs. 3 thru 9;
 Sec. 10, N $\frac{1}{2}$ and SW $\frac{1}{4}$;
 Sec. 11, N $\frac{1}{2}$ and SE $\frac{1}{4}$;
 Sec. 13;
 Sec. 14, E $\frac{1}{2}$;
 Secs. 17, 18, and 22 thru 24;
 Sec. 26, N $\frac{1}{2}$ and SE $\frac{1}{4}$;
 Sec. 34, lots 1 thru 8 and NE $\frac{1}{4}$;
 Secs. 35 and 36.
 T. 22 N., R. 8 W.,
 Sec. 7, lots 1 thru 4, SE $\frac{1}{4}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, and S $\frac{1}{2}$ SE $\frac{1}{4}$;
 Sec. 17, NW $\frac{1}{4}$ NW $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, and S $\frac{1}{2}$ SE $\frac{1}{4}$;
 Sec. 18;
 Sec. 20, N $\frac{1}{2}$ and SW $\frac{1}{4}$;
 Sec. 21, SW $\frac{1}{4}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ NW $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$, and SE $\frac{1}{4}$;
 Sec. 22, S $\frac{1}{2}$;
 Sec. 23, S $\frac{1}{2}$;
 Sec. 24, S $\frac{1}{2}$ SW $\frac{1}{4}$ and S $\frac{1}{2}$ SE $\frac{1}{4}$;
 Secs. 25 thru 27;
 Sec. 28, E $\frac{1}{2}$;
 Sec. 31, lots 3 thru 8 and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Secs. 32 thru 35.
 T. 19 N., R. 9 W.,
 Sec. 3, lots 1 thru 4, S $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$, and SW $\frac{1}{4}$;
 Sec. 12;
 Sec. 14, N $\frac{1}{2}$ and SE $\frac{1}{4}$;
 Sec. 15, NW $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 23;
 Sec. 24, NW $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 27;
 Sec. 30, lots 1 and 2;
 Sec. 35.
 T. 20 N., R. 9 W.,
 Sec. 4;
 Sec. 5, SW $\frac{1}{4}$;
 Sec. 6;
 Sec. 7, lots 1 and 2, E $\frac{1}{2}$, and E $\frac{1}{2}$ NW $\frac{1}{4}$;
 Secs. 8 and 9;
 Sec. 17, N $\frac{1}{2}$;
 Sec. 18, NE $\frac{1}{4}$;
 Sec. 30.
 T. 21 N., R. 9 W.,
 Sec. 3, lot 4;
 Sec. 4, lots 1 and 4.
 T. 22 N., R. 9 W.,
 Sec. 1, SW $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, and S $\frac{1}{2}$ SE $\frac{1}{4}$;
 Secs. 3 thru 9 and secs. 12 thru 15;

- Sec. 16, S $\frac{1}{2}$;
 Sec. 17;
 Sec. 18, lots 3 and 4, E $\frac{1}{2}$, and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Secs. 19 and 20;
 Sec. 21, NE $\frac{1}{4}$ and S $\frac{1}{2}$;
 Secs. 22 thru 24;
 Sec. 26, W $\frac{1}{2}$;
 Secs. 27 thru 34 and sec. 36.
 T. 23 N., R. 9 W.,
 Sec. 18, SW $\frac{1}{4}$ SE $\frac{1}{4}$;
 Sec. 19;
 Sec. 20, SW $\frac{1}{4}$ NE $\frac{1}{4}$;
 Sec. 27, SW $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$, and SW $\frac{1}{4}$ SE $\frac{1}{4}$;
 Secs. 28 and 30;
 Sec. 31, lots 1 thru 4, E $\frac{1}{2}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, and SE $\frac{1}{4}$;
 Sec. 33, E $\frac{1}{2}$;
 Sec. 34;
 Sec. 35, SW $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$, and SW $\frac{1}{4}$ SE $\frac{1}{4}$.
 T. 17 N., R. 10 W.,
 Sec. 30, lot 3, NE $\frac{1}{4}$ SW $\frac{1}{4}$, and N $\frac{1}{2}$ SE $\frac{1}{4}$;
 T. 19 N., R. 10 W.,
 Sec. 10, SW $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, and NW $\frac{1}{4}$ SE $\frac{1}{4}$;
 Sec. 28, SE $\frac{1}{4}$ SE $\frac{1}{4}$.
 T. 20 N., R. 10 W.,
 Sec. 1;
 Sec. 2, lots 1 thru 3, lots 5 thru 19, and S $\frac{1}{2}$ NE $\frac{1}{4}$;
 Sec. 3, lots 5 and 6;
 Sec. 6;
 Sec. 12, lots 1 thru 4;
 Secs. 20 and 28;
 Sec. 30, NE $\frac{1}{4}$ SW $\frac{1}{4}$.
 T. 21 N., R. 10 W.,
 Sec. 4;
 Sec. 5, lot 2 and W $\frac{1}{2}$ SW $\frac{1}{4}$;
 Secs. 6 thru 9 and sec. 16 thru 30;
 Sec. 33, lots 1 thru 4;
 Sec. 34, lots 1 thru 7, NE $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$, and SW $\frac{1}{4}$ SE $\frac{1}{4}$;
 Secs. 35 and 36.
 T. 22 N., R. 10 W.,
 Sec. 1 and sec. 3 thru 9;
 Sec. 10, NW $\frac{1}{4}$ and N $\frac{1}{2}$ SW $\frac{1}{4}$;
 Sec. 11, S $\frac{1}{2}$;
 Secs. 12 and 13;
 Sec. 14, W $\frac{1}{2}$ SW $\frac{1}{4}$;
 Sec. 15, S $\frac{1}{2}$;
 Secs. 16 thru 19;
 Sec. 20, SE $\frac{1}{4}$;
 Sec. 21, N $\frac{1}{2}$;
 Sec. 22;
 Sec. 23, W $\frac{1}{2}$ NE $\frac{1}{4}$, W $\frac{1}{2}$, and SE $\frac{1}{4}$;
 Secs. 24 and 25;
 Sec. 27, S $\frac{1}{2}$;
 Sec. 28, NE $\frac{1}{4}$ and SW $\frac{1}{4}$;
 Sec. 30, lots 1 and 2, NE $\frac{1}{4}$, and E $\frac{1}{2}$ NW $\frac{1}{4}$;
 Sec. 34, N $\frac{1}{2}$ and SW $\frac{1}{4}$.
 T. 23 N., R. 10 W.,
 Secs. 5 thru 8;
 Sec. 9, SW $\frac{1}{4}$ and SW $\frac{1}{4}$ SE $\frac{1}{4}$;
 Sec. 13, S $\frac{1}{2}$ NW $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 14, S $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$, and S $\frac{1}{2}$;
 Sec. 15, NE $\frac{1}{4}$ and S $\frac{1}{2}$;
 Secs. 17 thru 22;
 Sec. 24, NE $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 25, E $\frac{1}{2}$;
 Sec. 27, N $\frac{1}{2}$ and SE $\frac{1}{4}$;
 Sec. 28, N $\frac{1}{2}$ and SW $\frac{1}{4}$;
 Secs. 29 thru 31 and sec. 33 and 34.
 T. 24 N., R. 10 W.,
 Secs. 17 thru 20 and sec. 29;
 Sec. 30, lot 1, E $\frac{1}{2}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, and NE $\frac{1}{4}$ SW $\frac{1}{4}$;
 Sec. 31.
 T. 15 N., R. 11 W.,
 Sec. 6;
 Sec. 8, N $\frac{1}{2}$, N $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SW $\frac{1}{4}$, and NW $\frac{1}{4}$ SE $\frac{1}{4}$.
 Sec. 9, N $\frac{1}{2}$ NW $\frac{1}{4}$ and SW $\frac{1}{4}$ NW $\frac{1}{4}$.
 T. 16 N., R. 11 W.,
 Sec. 2, lots 1 thru 4, SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, and S $\frac{1}{2}$ SE $\frac{1}{4}$;
 Sec. 14, SW $\frac{1}{4}$;
 Sec. 21, SW $\frac{1}{4}$;
 Sec. 22, NE $\frac{1}{4}$ and SW $\frac{1}{4}$;
 Sec. 26, E $\frac{1}{2}$ NE $\frac{1}{4}$, W $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$, and W $\frac{1}{2}$ SE $\frac{1}{4}$;
 Secs. 28 and 29;
 Sec. 30, lots 1 and 2, E $\frac{1}{2}$ NW $\frac{1}{4}$, and SE $\frac{1}{4}$;
 Sec. 31, lots 1 thru 4, NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Sec. 33, N $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, W $\frac{1}{2}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$, and S $\frac{1}{2}$ SE $\frac{1}{4}$;
 Sec. 34, N $\frac{1}{2}$, SW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$, and SW $\frac{1}{4}$ SE $\frac{1}{4}$.
 T. 17 N., R. 11 W.,
 Sec. 2, SE $\frac{1}{4}$;
 Sec. 3, lots 1 and 2 and S $\frac{1}{2}$ NE $\frac{1}{4}$;
 Sec. 4, SE $\frac{1}{4}$;
 Sec. 10, N $\frac{1}{2}$ SW $\frac{1}{4}$ and N $\frac{1}{2}$ SE $\frac{1}{4}$;
 Secs. 12, 14, and 18;
 Sec. 19, lots 3 and 4 and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Sec. 22, S $\frac{1}{2}$;
 Sec. 24;
 Sec. 32, SW $\frac{1}{4}$;
 Sec. 34, NW $\frac{1}{4}$ and S $\frac{1}{2}$.
 T. 18 N., R. 11 W.,
 Sec. 18.
 T. 20 N., R. 11 W.,
 Sec. 22, NE $\frac{1}{4}$ NE $\frac{1}{4}$;
 Sec. 23, W $\frac{1}{2}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$;
 Sec. 26, E $\frac{1}{2}$ SE $\frac{1}{4}$.
 T. 21 N., R. 11 W.,
 Secs. 1 thru 3;
 Sec. 4, lots 3 and 4, S $\frac{1}{2}$ NW $\frac{1}{4}$, and S $\frac{1}{2}$;
 Sec. 5, lots 3 and 4 and S $\frac{1}{2}$ NW $\frac{1}{4}$;
 Sec. 6, lots 1 thru 5, S $\frac{1}{2}$ NE $\frac{1}{4}$, and SE $\frac{1}{4}$ NW $\frac{1}{4}$;
 Secs. 7 thru 10;
 Sec. 11, lot 1, N $\frac{1}{2}$, SW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$, and SW $\frac{1}{4}$ SE $\frac{1}{4}$;
 Sec. 12, lots 10 thru 15, N $\frac{1}{2}$, N $\frac{1}{2}$ SW $\frac{1}{4}$, and N $\frac{1}{2}$ SE $\frac{1}{4}$;
 Sec. 13, lots 1 thru 4, S $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$, and S $\frac{1}{2}$;
 Sec. 14, lot 1, W $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, W $\frac{1}{2}$, and SE $\frac{1}{4}$;
 Secs. 15 thru 25;
 Sec. 26, NE $\frac{1}{4}$;
 Secs. 28 and 30.
 T. 22 N., R. 11 W.,
 Secs. 2 and 6;
 Sec. 10, SE $\frac{1}{4}$;
 Sec. 12;
 Sec. 14, SW $\frac{1}{4}$;
 Sec. 18, lots 1 thru 4, E $\frac{1}{2}$ NW $\frac{1}{4}$, and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Sec. 22;
 Sec. 24, SW $\frac{1}{4}$ NE $\frac{1}{4}$ and W $\frac{1}{2}$;
 Sec. 26, NE $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 28, W $\frac{1}{2}$;
 Sec. 30;
 Sec. 34, SE $\frac{1}{4}$.
 T. 23 N., R. 11 W.,
 Secs. 1 thru 4 and sec. 6;
 Sec. 7, lots 1 and 2, NE $\frac{1}{4}$, and E $\frac{1}{2}$ NW $\frac{1}{4}$;
 Sec. 8, S $\frac{1}{2}$;
 Secs. 9 thru 11;
 Sec. 12, N $\frac{1}{2}$ and SE $\frac{1}{4}$;
 Secs. 13 thru 15, sec. 17, and sec. 21 thru 23;
 Sec. 24, N $\frac{1}{2}$ and SE $\frac{1}{4}$;
 Sec. 25, NW $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 26;
 Sec. 27, N $\frac{1}{2}$ and SE $\frac{1}{4}$;
 Sec. 28, NE $\frac{1}{4}$ and N $\frac{1}{2}$ NW $\frac{1}{4}$;
 Sec. 33, S $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$, and S $\frac{1}{2}$;
 Sec. 34, S $\frac{1}{2}$ SW $\frac{1}{4}$;
 Sec. 35, NE $\frac{1}{4}$;
 Sec. 36, S $\frac{1}{2}$.
 T. 24 N., R. 11 W.,
 Sec. 13, NW $\frac{1}{4}$;
 Sec. 14;
 Sec. 15, lot 1, lots 5 thru 8, lot 10, and S $\frac{1}{2}$;
 Sec. 16, lots 10, 13, and 14;
 Sec. 20, lots 3, 5 and 6;
 Sec. 21, lots 7 thru 10 and SE $\frac{1}{4}$;
 Sec. 22, NE $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 23;
 Sec. 24, NE $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 25, W $\frac{1}{2}$;
 Secs. 26 thru 28;
 Sec. 29, lots 1 and 2, lots 5 thru 8, lots 10 thru 14, and SE $\frac{1}{4}$;
 Sec. 30, lots 6 thru 13;
 Sec. 31 and sec. 33 thru 36.
 T. 15 N., R. 12 W.,
 Sec. 8, SW $\frac{1}{4}$ NE $\frac{1}{4}$;
 Sec. 10, SW $\frac{1}{4}$.
 T. 16 N., R. 12 W.,
 Secs. 6 and 8;
 Sec. 10, NW $\frac{1}{4}$;
 Sec. 14, NW $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 20, N $\frac{1}{2}$ and SW $\frac{1}{4}$;
 Secs. 22 and 24;
 Sec. 26, N $\frac{1}{2}$ and SE $\frac{1}{4}$;
 Secs. 28 and 30;
 Sec. 32, E $\frac{1}{2}$;
 Sec. 35, SW $\frac{1}{4}$.
 T. 17 N., R. 12 W.,
 Sec. 4, SE $\frac{1}{4}$;
 Sec. 6, lots 1 thru 5, S $\frac{1}{2}$ NE $\frac{1}{4}$, and SE $\frac{1}{4}$ NW $\frac{1}{4}$;
 Sec. 8, NE $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 10, NW $\frac{1}{4}$;
 Sec. 20, W $\frac{1}{2}$;
 Sec. 22, N $\frac{1}{2}$;
 Sec. 24, NE $\frac{1}{4}$;
 Sec. 26, E $\frac{1}{2}$;
 Sec. 28, SE $\frac{1}{4}$;
 Sec. 30;
 Sec. 32, W $\frac{1}{2}$ and SE $\frac{1}{4}$ SE $\frac{1}{4}$;
 Sec. 36;
 Tract 37.
 T. 18 N., R. 12 W.,
 Sec. 1;
 Sec. 2, lots 1 thru 4, S $\frac{1}{2}$ NW $\frac{1}{4}$, and SW $\frac{1}{4}$;
 Sec. 4, SE $\frac{1}{4}$;
 Secs. 11 thru 13;
 Sec. 14, N $\frac{1}{2}$;
 Sec. 16;
 Sec. 20, N $\frac{1}{2}$ and SW $\frac{1}{4}$;
 Secs. 22 thru 25;
 Sec. 30, SE $\frac{1}{4}$;
 Sec. 32, SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, and S $\frac{1}{2}$ SE $\frac{1}{4}$.
 T. 19 N., R. 12 W.,
 Sec. 1;
 Sec. 8, NW $\frac{1}{4}$;
 Sec. 9, NE $\frac{1}{4}$;
 Sec. 16, SW $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, and NW $\frac{1}{4}$ SE $\frac{1}{4}$;
 Sec. 21;
 Sec. 30, E $\frac{1}{2}$;
 Sec. 31.
 T. 20 N., R. 12 W.,

- Sec. 4, lots 5 thru 16;
 Sec. 5, S $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$, and W $\frac{1}{2}$ SE $\frac{1}{4}$;
 Sec. 6, lots 3 and 4, lot 8, and lots 9 thru 11;
 Sec. 8, SW $\frac{1}{4}$;
 Sec. 17, NW $\frac{1}{4}$ NE $\frac{1}{4}$ and N $\frac{1}{2}$ NW $\frac{1}{4}$;
 Sec. 18;
 Sec. 20, SE $\frac{1}{4}$;
 Sec. 22, N $\frac{1}{2}$ and SE $\frac{1}{4}$;
 Sec. 26;
 Sec. 30, lots 3 and 4 and E $\frac{1}{2}$ SW $\frac{1}{4}$.
 T. 21 N., R. 12 W.,
 Secs. 1 and 4;
 Sec. 10;
 Sec. 22, NW $\frac{1}{4}$;
 Sec. 24, SW $\frac{1}{4}$;
 Sec. 25;
 Sec. 28, NE $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 31, E $\frac{1}{2}$ SE $\frac{1}{4}$;
 Secs. 32 and 34.
 T. 22 N., R. 12 W.,
 Sec. 1, S $\frac{1}{2}$;
 Sec. 3, SE $\frac{1}{4}$;
 Sec. 4;
 Sec. 5, SE $\frac{1}{4}$;
 Sec. 6;
 Sec. 7, SE $\frac{1}{4}$;
 Sec. 8;
 Sec. 9, NW $\frac{1}{4}$ and S $\frac{1}{2}$;
 Secs. 10 thru 15;
 Sec. 17, SW $\frac{1}{4}$;
 Sec. 18;
 Sec. 19, lots 1 and 2, NE $\frac{1}{4}$, and E $\frac{1}{2}$ NW $\frac{1}{4}$;
 Sec. 21, N $\frac{1}{2}$;
 Secs. 22 thru 27;
 Sec. 28, N $\frac{1}{2}$;
 Sec. 29;
 Sec. 30, lots 3 and 4, E $\frac{1}{2}$ SW $\frac{1}{4}$, and SE $\frac{1}{4}$;
 Sec. 33, lots 1 thru 8 and NW $\frac{1}{4}$;
 Sec. 34;
 Sec. 35, N $\frac{1}{2}$ and SE $\frac{1}{4}$.
 T. 23 N., R. 12 W.,
 Sec. 1;
 Sec. 3, lots 5 thru 16;
 Sec. 4;
 Sec. 5, lots 9 thru 20;
 Sec. 6, lots 12 thru 15;
 Sec. 9, E $\frac{1}{2}$;
 Sec. 10, lots 1 thru 8;
 Sec. 13;
 Sec. 14, lots 1 thru 8 and NW $\frac{1}{4}$;
 Sec. 15, lots 1 thru 8;
 Sec. 17, lot 5 and W $\frac{1}{2}$ SW $\frac{1}{4}$;
 Sec. 18, lots 3, 4, and 6, SE $\frac{1}{4}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, and SE $\frac{1}{4}$;
 Sec. 19;
 Sec. 20, lots 4 thru 6 and lots 9 thru 16;
 Sec. 21, lots 1 thru 3 and lots 6 thru 16;
 Secs. 22 thru 24;
 Sec. 25, E $\frac{1}{2}$;
 Secs. 26 thru 30;
 Sec. 33, W $\frac{1}{2}$;
 Sec. 35, SE $\frac{1}{4}$ SE $\frac{1}{4}$.
 T. 24 N., R. 12 W.,
 Sec. 35, lots 9 and 10 and lots 13 thru 16;
 Sec. 36, lots 1 and 2 and lots 5 thru 18.
 T. 15 N., R. 13 W.,
 Sec. 2, lots 3 and 4 and S $\frac{1}{2}$ NW $\frac{1}{4}$.
 T. 16 N., R. 13 W.,
 Sec. 2;
 Sec. 10, NW $\frac{1}{4}$;
 Sec. 18, lots 1 and 2 and E $\frac{1}{2}$ NW $\frac{1}{4}$;
 Sec. 26, NW $\frac{1}{4}$;
 Sec. 36.
 T. 17 N., R. 13 W.,
 Sec. 2, lots 1 and 2 and S $\frac{1}{2}$ NE $\frac{1}{4}$;
 Sec. 5, lots 3 and 4, S $\frac{1}{2}$ NW $\frac{1}{4}$, and S $\frac{1}{2}$;
 Secs. 10 and 12;
 Sec. 15, SE $\frac{1}{4}$;
 Sec. 19;
 Sec. 21, NW $\frac{1}{4}$;
 Sec. 24, NE $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 26, SW $\frac{1}{4}$;
 Sec. 28, SW $\frac{1}{4}$;
 Secs. 32 and 33;
 Sec. 34, NW $\frac{1}{4}$.
 T. 18 N., R. 13 W.,
 Sec. 1;
 Sec. 2, lots 1 and 2, S $\frac{1}{2}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$, and E $\frac{1}{2}$ SE $\frac{1}{4}$;
 Secs. 3, 5, 9, 11, 13, and 15;
 Sec. 19, SE $\frac{1}{4}$;
 Secs. 20, 21, 23, 25, 27, 29, and 31;
 Sec. 32, NE $\frac{1}{4}$ and SW $\frac{1}{4}$;
 Sec. 33;
 Sec. 34, W $\frac{1}{2}$;
 Sec. 35;
 Sec. 36, SW $\frac{1}{4}$.
 T. 19 N., R. 13 W.,
 Secs. 2 and 4;
 Sec. 6, SE $\frac{1}{4}$;
 Sec. 14, NW $\frac{1}{4}$;
 Sec. 15, S $\frac{1}{2}$ SW $\frac{1}{4}$ and S $\frac{1}{2}$ SE $\frac{1}{4}$;
 Sec. 18, lots 5 thru 12 and NE $\frac{1}{4}$;
 Sec. 19, lot 3, lots 5 thru 8, E $\frac{1}{2}$, and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Secs. 20 thru 22;
 Sec. 24, SW $\frac{1}{4}$;
 Secs. 28 and 29;
 Sec. 32, NE $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$, and N $\frac{1}{2}$ SE $\frac{1}{4}$;
 Sec. 33;
 Sec. 34, N $\frac{1}{2}$ and SW $\frac{1}{4}$;
 Sec. 36.
 T. 20 N., R. 13 W.,
 Sec. 4;
 Sec. 6, lots 6 and 7 and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Sec. 7, lot 2, W $\frac{1}{2}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$, and SE $\frac{1}{4}$ NW $\frac{1}{4}$;
 Secs. 8, 10, 12, 14, 18, 20, 22, 24, 26, 28, and 30;
 Sec. 32, N $\frac{1}{2}$;
 Sec. 34.
 T. 21 N., R. 13 W.,
 Secs. 3 thru 6;
 Sec. 8, N $\frac{1}{2}$ and SW $\frac{1}{4}$;
 Sec. 9;
 Sec. 10, NE $\frac{1}{4}$;
 Secs. 11 and 13;
 Sec. 14, lots 1 thru 12;
 Sec. 15;
 Sec. 17, N $\frac{1}{2}$ and SE $\frac{1}{4}$;
 Secs. 18, 19, and 21;
 Sec. 22, N $\frac{1}{2}$;
 Sec. 23;
 Sec. 24, NE $\frac{1}{4}$ and S $\frac{1}{2}$;
 Secs. 25 and 27;
 Sec. 28, NE $\frac{1}{4}$ and SW $\frac{1}{4}$;
 Sec. 29;
 Sec. 30, lots 5 thru 8, E $\frac{1}{2}$ NW $\frac{1}{4}$, and E $\frac{1}{2}$ SW $\frac{1}{4}$;
 Secs. 31 and 33;
 Sec. 34, NW $\frac{1}{4}$;
 Sec. 35.
 T. 22 N., R. 13 W.,
 Sec. 1, lots 3 and 4 and S $\frac{1}{2}$ NW $\frac{1}{4}$;
 Sec. 3, SW $\frac{1}{4}$;
 Sec. 4, lots 3 and 4, S $\frac{1}{2}$ NW $\frac{1}{4}$, and S $\frac{1}{2}$;
 Sec. 5;
 Sec. 8, NW $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 9, NE $\frac{1}{4}$ and SW $\frac{1}{4}$;
 Sec. 10;
 Sec. 11, NW $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 12, S $\frac{1}{2}$;
 Sec. 13, NE $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$, and SE $\frac{1}{4}$ SE $\frac{1}{4}$;
 Sec. 14, N $\frac{1}{2}$ and W $\frac{1}{2}$ SE $\frac{1}{4}$;
 Sec. 15, NE $\frac{1}{4}$;
 Sec. 17;
 Sec. 19, lot 4, NE $\frac{1}{4}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, and SE $\frac{1}{4}$;
 Sec. 20, W $\frac{1}{2}$;
 Sec. 21, N $\frac{1}{2}$ NW $\frac{1}{4}$;
 Sec. 23;
 Sec. 24, N $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$, and S $\frac{1}{2}$;
 Sec. 25, E $\frac{1}{2}$;
 Sec. 27, SW $\frac{1}{4}$;
 Secs. 28 thru 30;
 Sec. 31, lots 1 thru 3, E $\frac{1}{2}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, and NE $\frac{1}{4}$ SW $\frac{1}{4}$;
 Sec. 33;
 Sec. 34, E $\frac{1}{2}$;
 Sec. 35.
 T. 23 N., R. 13 W.,
 Sec. 2, S $\frac{1}{2}$;
 Sec. 3, S $\frac{1}{2}$ SE $\frac{1}{4}$;
 Sec. 15, S $\frac{1}{2}$ NW $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 20, E $\frac{1}{2}$ SW $\frac{1}{4}$, and SE $\frac{1}{4}$;
 Sec. 21, S $\frac{1}{2}$;
 Sec. 22, SW $\frac{1}{4}$;
 Sec. 26;
 Sec. 27, NE $\frac{1}{4}$ and S $\frac{1}{2}$;
 Sec. 28;
 Sec. 29, NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$, and S $\frac{1}{2}$;
 Sec. 34;
 Sec. 35, NE $\frac{1}{4}$ and SW $\frac{1}{4}$.
 The area aggregates 351,479.97 acres in San Juan County, New Mexico.

There are no suitable alternative sites, and no water rights will be needed for this withdrawal.

For a period until April 6, 2022, persons who wish to submit comments, suggestions, or objections related to the withdrawal application may present their views in writing to the individual listed in the **ADDRESSES** section earlier. Comments will be available for public review by appointment at the BLM Farmington Field Office, 6251 College Blvd. Suite A, Farmington, NM 87402, during regular business hours, 8:00 a.m. to 4:30 p.m., Monday through Friday, except holidays.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you may ask BLM in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

A notice for public meeting(s) regarding the withdrawal application will be announced in the local newspaper and on the agency websites at least 30 days before the meeting(s). For a period until January 6, 2024,

subject to valid existing rights, the BLM lands described in this notice will be temporarily segregated from location and entry under the United States mining laws and from leasing under the mineral leasing laws, but not disposal under the mineral materials laws, unless the application is denied or canceled or the withdrawal is approved prior to that date. All activities currently consistent with the 2003 Farmington Resource Management Plan, as amended, are authorized to continue, including public recreation, mineral materials disposition, and other activities compatible with preservation of the character of the area, subject to BLM discretionary approval, during the segregation period.

(Authority: 43 CFR part 2300)

Melanie G. Barnes,

Acting State Director, New Mexico.

[FR Doc. 2021-28525 Filed 1-5-22; 8:45 am]

BILLING CODE 4310-FB-P

DEPARTMENT OF THE INTERIOR

National Park Service

[NPS-WASO-NRNL-DTS#-33209;
PPWOCRADIO, PCU00RP14.R50000]

National Register of Historic Places; Notification of Pending Nominations and Related Actions

AGENCY: National Park Service, Interior.

ACTION: Notice.

SUMMARY: The National Park Service is soliciting electronic comments on the significance of properties nominated before December 25, 2021, for listing or related actions in the National Register of Historic Places.

DATES: Comments should be submitted electronically by January 21, 2022.

ADDRESSES: Comments are encouraged to be submitted electronically to *National_Register_Submissions@nps.gov* with the subject line "Public Comment on <property or proposed district name, (County) State>." If you have no access to email you may send them via U.S. Postal Service and all other carriers to the National Register of Historic Places, National Park Service, 1849 C Street NW, MS 7228, Washington, DC 20240.

FOR FURTHER INFORMATION CONTACT: Sherry A. Frear, Chief, National Register of Historic Places/National Historic Landmarks Program, 1849 C Street NW, MS 7228, Washington, DC 20240, *sherry_frear@nps.gov*, 202-913-3763.

SUPPLEMENTARY INFORMATION: The properties listed in this notice are being

considered for listing or related actions in the National Register of Historic Places. Nominations for their consideration were received by the National Park Service before December 25, 2021. Pursuant to Section 60.13 of 36 CFR part 60, comments are being accepted concerning the significance of the nominated properties under the National Register criteria for evaluation.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Nominations submitted by State or Tribal Historic Preservation Officers:

DISTRICT OF COLUMBIA

District of Columbia

Buildings at 5000-5040 New Hampshire Avenue NW, (Apartment Buildings in Washington, DC, MPS) 5000-5040 New Hampshire Ave. NW, Washington, MP100007399

FLORIDA

Miami-Dade County

Hampton House Motel, 4240 NW 27th Ave., Miami, SG100007393

Sarasota County

Sarasota Garden Center (Sarasota School of Architecture MPS), 1131 Boulevard of the Arts, Sarasota, MP100007394

MASSACHUSETTS

Middlesex County

Common Street Cemetery, Common St., Watertown, SG100007387
Old Burying Ground, Grove St., Watertown, SG100007388

Worcester County

YWCA of Worcester, 2 YWCA Way, Worcester, SG100007389

NEW YORK

Monroe County

Johnson, James H. and Sarah, House (Architecture of James H. Johnson in the Greater Rochester Area 1961-1977 MPS), 86 Mountain Rd., Penfield vicinity, MP100007386

Montgomery County

Smith-Voorhees-Covenhoven House, 141 Reynolds Rd., Fultonville, SG100007397

Oneida County

Olbiston Flats, 1431 Genesee St., Utica, SG100007398

OHIO

Mercer County

Morvilius Opera House, 101 North Wayne St., Fort Recovery, SG100007396

Noble County

Exaltation-Elevation of the Holy Cross Church, 100 Walnut St., Belle Valley, SG100007400

SOUTH CAROLINA

Kershaw County

Plane Hill, 691 Cantey Ln., Rembert vicinity, SG100007390

SOUTH DAKOTA

Roberts County

Sisseton Agency Headquarters & Wacipi Grounds, 45744 BIA Hwy. 706, Agency Village, SG100007395

TEXAS

Bell County

Missouri, Kansas and Texas (MK&T-Katy) Railway Passenger Depot, 620 Central Ave., Temple, SG100007401

Harris County

Eldorado Ballroom, 2310 Elgin St., Houston, SG100007402

Tarrant County

Farrington Field and Public Schools Gymnasium, 1501 University Dr. and 1400 Foch St., Fort Worth, SG100007403

Travis County

Anderson Stadium, South of the intersection of Hargrave Ave., Rosewood Ave., and Thompson St., Austin, SG100007405

Webb County

Pan-American Courts and Cafe, 3301 San Bernardo Ave., Laredo, SG100007392

Wharton County

Stephen F. Austin Elementary School, 500 Abell St., Wharton, SG100007404

A request for removal has been made for the following resource:

IOWA

Adams County

Odell, Noah, House, 1245 240th St., Nodaway vicinity, OT00000917

Authority: Section 60.13 of 36 CFR part 60.

Dated: December 25, 2021.

Sherry A. Frear,

*Chief, National Register of Historic Places/
National Historic Landmarks Program.*

[FR Doc. 2022-00007 Filed 1-5-22; 8:45 am]

BILLING CODE 4312-52-P

NATIONAL SCIENCE FOUNDATION

Notice of Permit Applications Received Under the Antarctic Conservation Act of 1978

AGENCY: National Science Foundation.

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Appendix C

Economic Modeling Technical Approach

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Appendix C. Economic Modeling Technical Approach

The following provides an overview of the rationale and approach to modelling costs for analysis contained within the Environmental Assessment (EA) for the proposed 20-year withdrawal of public lands from mineral entry in the area surrounding the Chaco Culture National Historical Park (CCNHP). Modelled results are also presented. The economic region was defined as the following four counties within the state of New Mexico: San Juan, Sandoval, McKinley and Rio Arriba Counties. The proposed action would entail withdrawal for a 20-year period of approximately 338,690 acres from location and entry under the United States mining laws and from leasing under the mineral leasing law on BLM administered lands in northwest New Mexico. To support the analysis of socioeconomic impacts within the EA, an input-output model, Impact Analysis for Planning (IMPLAN), was utilized. The model provides a quantitative representation of the production relationships between individual economic sectors, was used to simulate economic effects to local economies from implementation of the action. Model inputs included direct spending in the oil and gas sector-related spending that would be foregone under the proposed action. Resulting estimated local economic impacts by alternative were presented in the analysis in the EA.

Production Estimates

Production estimates from the Reasonably Foreseeable Development (RFD) scenario produced in support of the 2018 Farmington RMP include the assumption that existing and projected wells will produce an estimated 279,561,000 barrels (bbl) of oil and 5,083,680,000 thousand cubic feet (Mcf) of gas (Crocker and Glover 2018). The RFD represents the best available estimate of projected oil and gas production. Annual estimates derived from the RFD result in an average of 13,978,050 bbl of oil and 254,184,000 mcf of natural gas per year for the period from 2018 to 2037. Given that the Chaco withdrawal boundary comprises approximately 23 percent of the total planning area considered under the 2018 RFD, it is thus estimated that the potential development of 206,737 bbl of oil and 3,759,416 mcf of natural gas would be foregone per year as a result of the withdrawal.

Development Estimates

The 2018 RFD also estimates 3,200 new oil and gas wells (2,300 horizontal and 900 vertical or directional) for the period from 2018 to 2037. Given that the Chaco withdrawal boundary (approximately 339,300 acres) comprises approximately 23 percent of the total planning area considered under the 2018 RFD, it is estimated that the potential development of a total of 47 new oil and gas wells (20 horizontal and 27 vertical or directional) would be foregone as a result of the withdrawal.

Economic Sector Attribution of Costs

Per well costs for both horizontal and vertical well drilling and completion activities in the Mancos Formation of northern New Mexico were compiled from previous socioeconomic analyses undertaken in support of the 2018 Farmington RMP. These costs are provided in **Table C-1** below.

Table C-1. Per-Well Costs for Well Drilling and Completion Activities

Activity	Per-Well Cost (% of Total Cost) (\$2021)			
	Horizontal		Vertical	
	Drilling	Completion	Drilling	Completion
Site preparation	\$100,000 (5%)	-	\$38,500 (7%)	\$75,000 (5%)
Drilling Rig	\$140,000 (7%)	\$1,000,000 (2%)	\$55,000 (1%)	\$165,000 (11%)
Support & Engineering Services	\$820,000 (41%)	\$2,450,000 (49%)	\$297,000 (54%)	\$600,000 (4%)
Consumables & Tangibles	\$400,000 (2%)	\$375,000 (8%)	\$99,000 (18%)	\$225,000 (15%)
Proppant	-	\$375,000 (8%)	-	\$225,000 (15%)
Equipment Rental	\$280,000 (14%)	\$450,000 (9%)	\$22,000 (4%)	\$120,000 (8%)
Transportation	\$160,000 (8%)	\$350,000 (7%)	\$16,500 (3%)	\$90,000 (6%)
Communication	-	-	-	-
Legal	\$100,000 (5%)	-	\$22,000 (4%)	-

IMPLAN Model Inputs

Once sector-specific costs were determined on a per-well basis for all drilling and completion activities, costs were input into the model and the 4-county area encompassing McKinley, Rio Arriba, Sandoval, and San Juan counties was identified as an appropriate geography for capturing modelling economic effects of mineral entry in the withdrawal area. **Table C-2** details the specific industry sectors which were ascribed to each of the well drilling and completion activities based on the associated raw materials, labor force type and other contributing elements necessary to support the industrial activity.

Table C-2. Well Drilling and Completion Activities and Associated IMPLAN Sectors

Activity	Industry Sector (IMPLAN Code)	Description
Site preparation	264	Oil and gas field machinery and equipment manufacturing
Drilling Rig		
Support & Engineering Services	446	Funds, trusts, and other financial vehicles
Consumables & Tangibles	36	Support activities for oil and gas operations
Proppant	214	Miscellaneous nonmetallic mineral products manufacturing
Equipment Rental	20	Oil and gas extraction
Transportation	515	Commercial and industrial machinery and equipment repair and maintenance
Communication		
Legal	446	Funds, trusts, and other financial vehicles

Modelled Results

Several economic indicators were modelled for the effect of foregone contributions on the economy from the proposed withdrawal. These include Employment; Labor Income; Value Added; and Total Output. **Table C-3** displays modelled economic effects in the form of foregone contributions to the economy from the proposed withdrawal. Results obtained from modelling indicate that the proposed removal of approximately 338,690 acres of federal mineral estate from mineral entry and leasing would reduce foreseeable development by approximately 20 horizontal and 27 vertical or directional wells and would result in an estimated loss of up to 49 jobs and \$12.2M in total economic contributions per well, per year, over the 20-year withdrawal timeframe.

Table C-3. Modelled Economic Effects Per Well (\$2021)

Indicator	Contributions (Drilling and Completion, per well)		Total Annual Contributions (Drilling and Completion, all types)	Total for 20-Year Period (Drilling and Completion, per well)
	Horizontal	Vertical		
Employment	38	11	49	980
Labor Income	\$1,830,354	\$523,096	\$2,353,450	\$47,069,000
Value Added	\$3,080,896	\$898,571	\$3,979,467	\$79,589,340
Total Output	\$9,475,098	\$2,780,232	\$12,255,330	\$245,106,600

Crocker, K. and J.F. Glover. 2018. Reasonably Foreseeable Development Scenario for Oil and Gas Activities Mancos-Gallup RMPA Planning Area, Farmington Field Office, northwest New Mexico. Bureau of Land Management. United States Department of Interior. February 2018.

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