

May 6, 2022

Sarah Scott
CCNHP Area Withdrawal
Bureau of Land Management
Farmington Field Office
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Dear Ms. Scott:

Thank you for the opportunity to provide input on the proposed Chaco Culture National Historical Park Area Withdrawal (withdrawal). Most of the undersigned groups, representing over 1.6 million members and supporters, have been working to protect the Greater Chaco landscape for decades, while some of the undersigned have been working to protect the area for centuries through cultural preservation. We strongly support this proposal and encourage the Bureau of Land Management (BLM) to act swiftly and ensure protection for the next 20 years.

Below, we provide details into the specific benefits derived from this withdrawal and raise our concerns with the rampant misinformation campaign being run by the oil and gas industry. We look forward to continuing to engage in the process.

I. Preliminary Thoughts

The United States is an active participant in the Convention Concerning the Protection of the World Cultural and Natural Heritage (the “World Heritage Convention”), adopted in 1972. As a State Party, it has unique responsibilities to protect the 24 World Heritage Sites within its jurisdiction, including the Greater Chaco landscape.

Dubbed “Chaco Culture,” elements of the landscape in the Planning and Decision Area were inscribed as a World Heritage Site on November 12, 1987. These resources are determined to be of Outstanding Universal Value under Convention criterion iii (“bearing a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared.”)

Chaco is one of just 11 World Heritage Sites (WHS) in the United State specifically inscribed for its connections to cultural history, together with places as diverse and significant as Independence Hall and the Statue of Liberty. 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

The World Heritage Convention establishes a system of identification, preservation and registration of cultural properties and natural sites of Outstanding Universal Value. The Preamble of the Convention recognizes that “the deterioration or disappearance of any item of the cultural or natural heritage constitutes a harmful impoverishment of the heritage of all nations” and establishes the “importance, for all the peoples of the world, of safeguarding this unique and irreplaceable property” as “part of the world heritage of mankind as a whole.”²

The Operational Guidelines for the Implementation of the World Heritage Convention outline the substantive obligations State Parties have to protect inscribed World Heritage Sites.³ These include measures to ensure their protection and continual efforts to monitor and submit periodic reports regarding the status of those sites and ongoing threats. Specifically, States Parties have the obligation to

- have adequate long-term legislative, regulatory, institutional and/or traditional protection and management to ensure the safeguarding of World Heritage Sites (Article II.F, Clause 97);
- have legislative and regulatory measures at national and local levels to assure the protection of the property from social, economic and other pressures or changes that might negatively impact the Outstanding Universal Value, including the integrity and/or authenticity of the property (Article II.F, Clause 98);
- have an appropriate management plan or other documented management system which must specify how the Outstanding Universal Value of a property should be preserved, preferably through participatory means.” (Article II.F, Clause 108).
- submit specific reports and impact studies each time exceptional circumstances occur or work is undertaken which may have an impact on the Outstanding Universal Value of the property or its state of conservation. (Article IV.B, Clause 169);
- submit periodic reports for examination by the World Heritage Committee (Article V.B, Clause 204).

II. Responding to Inaccurate and Misleading Information Concerning the Nature and Impact of the Proposed Withdrawal.

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

¹ See <http://www.chacoarchive.org/cra/outlier-database/>.

² See <https://whc.unesco.org/archive/convention-en.pdf>.

³ See <https://whc.unesco.org/en/guidelines/>.

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.

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.

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

- **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

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

⁴ Exec. Order 2019-002 – Moratorium on Oil and Gas Leasing in the Greater Chaco Area (Apr. 27, 2019).

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).

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).

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).

world and its work with its spiritual landscape.”¹⁴ In 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

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

Such impacts are, unfortunately, commonplace, particularly on lands north and east of the proposed withdrawal area, which have experienced and continue to experience significant development pressure.

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:

- o **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
- o **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

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).

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.

¹⁸ Letter from Milford Wayne Donaldson, Chairman, ACHP, to David Bernhardt, Secretary, DOI 1 (June 10, 2019).

Tsun Je Zhin Mesa as well as with the east half of the parcel in Ah-shi-sle-pah Wash.”¹⁹

- o **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
- o **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

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.

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).

²² *Id.*

III. The Proposed Withdrawal is Needed to Fulfill DOI's Obligations to Protect Chaco Culture National Historical Park and the Chaco Culture World Heritage Site.

The proposed withdrawal would provide enhanced and much-needed protection for CCNHP. In particular, it would limit harmful development activity within the park's viewshed. The withdrawal would also help prevent further degradation to the integrity of the Chaco Culture WHS.

A. The proposed withdrawal is needed to limit harmful development activity within the park's viewshed.

By limiting oil and gas development within the park's viewshed, the proposed withdrawal would help address "the greatest external threat to park resources." 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

Accordingly, Pueblos and Tribes have repeatedly asked the Interior Department to avoid issuing any more oil and gas leases on federal lands within the proposed withdrawal area.²⁶

Additionally, all of these sites are open to and interpreted for members of the public, many of whom value the park because of its "solitude, natural quiet, remote high desert environment, and minimal park development," which provide "an unparalleled opportunity to stand among the ruins

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).

²⁶ *See, e.g.*, Letter, All Pueblo Council of Governors, to State Director, BLM (Jan. 14, 2018) (protesting oil and gas leases within the proposed withdrawal area); Press Release, All Pueblo Council of Governors Response to BLM's Preferred Plan for Greater Chaco (Mar. 3, 2020) ("For years, and at the urging of Pueblos and other tribes, DOI has designated federal land in this 10-mile area unavailable or otherwise removed parcels from oil and gas lease sales. APCG and many other stakeholders of this region have repeatedly called upon the federal government to protect this region.").

and imagine the activity that occurred during the height of the Chacoan occupation.”²⁷ Thus, by limiting oil and gas development within the park’s viewshed, the proposed withdrawal would help protect these sites and further DOI’s obligation to “accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners” and “avoid adversely affecting the physical integrity of such sacred sites.”²⁸

Over the years, NPS, BLM, and ACHP have all found that there could be significant impacts on the park’s viewshed if widespread oil and gas development were to occur within the proposed withdrawal area. In 2013, NPS provided BLM with comments on a draft visual resources management plan for the Farmington Field Office. In those comments, NPS stated that

[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.*²⁹

NPS specifically highlighted the sparsity of development within the park’s viewshed, particularly to the north: “This landscape is not pristine or untrammled, but it is largely intact and the fact the ancient features are still visible and detectable suggests that the level of integrity is high. Each additional modern feature, ground disturbance, or terrain modification obscures or outright obliterates these features.”³⁰ Separately, NPS has found that a “cultural landscape” exists that “encompasses the whole park, and includes the viewshed into and from adjacent lands, dark night sky, air quality, and resources and values of traditionally associated peoples,”³¹ and stated that “impacts to viewsheds have the potential to diminish integrity of the park cultural landscape.”³²

BLM has reached similar conclusions. Several years ago, after receiving lease nominations within the proposed withdrawal area, BLM prepared a series of viewshed maps, which confirm that public

²⁷ NPS, Chaco Culture National Historical Park General Management Plan Amendment/Environmental Assessment 15.

²⁸ Exec. Order 13,007, 61 Fed. Reg. 26,771 (May 29, 1996); *see also* NHPA XXX.

²⁹ Letter from Lawrence T. Turk, Superintendent, Chaco Culture National Historical Park, to Lindsay Eoff, Project Manager, BLM 4 (May 29, 2013) (emphases added).

³⁰ *Id.* at 3.

³¹ BLM, Draft EA/FONSI Jan. 2014 Oil & Gas Lease Sale 24; *see also* Letter from Lawrence T. Turk, Superintendent, Chaco Culture National Historical Park, to Lindsay Eoff, Project Manager, BLM 6 (May 29, 2013) (“Surrounding lands outside the park boundary also contribute to the integrity of setting and feeling of the park cultural landscape.”).

³² Letter from Lawrence T. Turk, Superintendent, Chaco Culture National Historical Park, to Lindsay Eoff, Project Manager, BLM 7 (May 29, 2013).

lands through the proposed withdrawal area are visible from several key observation points within the park.³³ BLM concluded that development on these parcels “could impact visitor experience of sweeping, unimpaired views; appreciation of ancient sites with minimal distractions; and no intrusions of man-made noise or light (at night) at those points by introducing man-made structures into the landscape.”³⁴ BLM also found that development on lease parcels over twenty miles away would be visible from within the park.³⁵ For this reason, in 2018, BLM included an alternative in the Mancos-Gallup Draft RMP Amendment that would close federal lands to leasing up to fifteen miles from the park’s boundary – five miles beyond what is proposed in the withdrawal.³⁶

Finally, ACHP has echoed NPS and BLM’s findings concerning the impact of oil and gas development on the park’s viewshed. In 2013, in comments on Farmington’s draft visual resources management plan, ACHP advised BLM that “[i]t is particularly important to apply Class I or II designations to all areas within the Chaco viewshed, including those currently available for oil and gas leasing, in order to protect the viewshed from adverse visual effects.”³⁷ Further, in 2019, following then-Secretary of the Interior Bernhardt’s decision to recognize a congressional moratorium on leasing within the proposed withdrawal area by announcing an administrative moratorium on leasing within the withdrawal area, ACHP again raised concerns for how DOI was managing the landscape surrounding CCNHP: “The effects of continued development 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.”³⁸ ACHP specifically endorsed the creation of a “buffer zone” around the park where oil and gas leasing on federal lands would be prohibited.³⁹

In sum, over the years, three DOI agencies – NPS, BLM, and ACHP – have repeatedly voiced concern for the impact of oil and gas development on the park, including its viewshed, and have recommended courses of action, including creation of a “buffer zone,” that are in complete harmony with the withdrawal proposed by Secretary Haaland.

B. The proposed withdrawal is needed to prevent further degradation of the Chaco Culture WHS.

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,

³³ BLM, Penasco Blanco Viewshed Analysis Results; BLM, Pueblo Alto Viewshed Analysis Results; BLM, Pueblo Pintado Viewshed Analysis Results; BLM, Tsin Kletsin Viewshed Analysis Results.

³⁴ BLM, Draft EA/FONSI Jan. 2014 Oil & Gas Lease Sale 62.

³⁵ *Id.* at 63.

³⁶ BLM, Farmington Mancos-Gallup Draft RMPA/EIS, Appendix H-4 (Feb. 2018).

³⁷ Letter from Reid J. Nelson, ACHP, to Lindsay Eoff, Project Manager, BLM 1 (May 31, 2013).

³⁸ Letter from Milford Wayne Donaldson, Chairman, ACHP, to David Bernhardt, Secretary, DOI 1 (June 10, 2019).

³⁹ Letter from Milford Wayne Donaldson, Chairman, ACHP, to Rep. Grijalva & Rep. Bishop, House Natural Resources Committee 2 (Apr. 30, 2019).

[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

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

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 viewscales 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.”⁴² In 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.”⁴³ As noted earlier, “views of and along [the Great North Road] contribute to Chaco’s outstanding universal value.”⁴⁴

NPS has made similar findings. In a 2013 report on the state of the Chaco Culture WHS, NPS identified “energy development as the greatest external threat to park resources” and acknowledged that “[t]he ability to consistently and successfully manage external threats and their effects on the cultural values is not present.”⁴⁵ Also in 2013 and in response to a specific leasing proposal for public lands in close proximity to the WHS, NPS stated that “Chaco’s specific World Heritage values of sweeping, unimpaired views, clean air, and no intrusions of man-made noise or light would be affected by a high level of development near the World Heritage sites.”⁴⁶

⁴⁰ Letter from Lawrence T. Turk, Superintendent, Chaco Culture National Historical Park, to Lindsay Eoff, Project Manager, BLM 3 (May 29, 2013) (emphases added).

⁴¹ *Id.*

⁴² Ruth M. Van Dyke, Impacts of Oil and Gas Drilling on Viewscales 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).

⁴⁵ *Id.*

⁴⁶ Letter from Lawrence T. Turk, Superintendent, Chaco Culture National Historical Park, to Lindsay Eoff, Project Manager, BLM 7 (May 29, 2013).

This leasing proposal was just one of several in recent years that included public lands within the proposed withdrawal area. One of those proposals included a parcel that overlapped with the Great North Road about four miles north of the NHP. According to BLM, “[l]easing 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.”⁴⁷ Fortunately, and in response to concerns from the Hopi Tribe, BLM deferred this parcel – but, like most of the landscape surrounding the park, it remains open to leasing and development.

To prevent further degradation to the Chaco Culture WHS, ACHP has endorsed the creation of a “buffer zone” around the park. In commenting on the Chaco Cultural Heritage Protection Act, which would withdraw the same federal lands from oil and gas leasing that DOI’s proposed withdrawal would, ACHP stated that:

[b]y creating the “Chaco Cultural Heritage Withdrawal Area,” the legislation would remove development threats on federal lands within and adjacent to the Chaco National Historical Park and other portions of the World Heritage Site. It should be noted that by doing so the Congress would be fulfilling the obligations of the World Heritage Convention for states party to protect their World Heritage Sites and, where necessary, to create buffer zones for that purpose. The provisions of H.R. 2181 would in large part meet the threats identified in the Chaco Culture World Heritage Site Statement of Outstanding Universal Value.⁴⁸

Creating such a “buffer zone” would also address NPS’s “considerable concern” for leasing in the landscape surrounding the Chaco Culture WHS,⁴⁹ and help avoid “reduc[ing] this landscape to dots on a map that threaten to destroy the most compelling, least-understood, and perhaps most significant aspects of [the Chaco] phenomenon.”⁵⁰

C. The proposed withdrawal would help DOI fulfill its legal obligation to achieve “maximum consistency” with state and local plans.

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

⁴⁷ Letter from David J. Mankiewicz, BLM, to Leigh Kuwanwisiwma, Director, Hopi Cultural Preservation Office 2 (Dec. 23, 2009).

⁴⁸ Letter from Milford Wayne Donaldson, Chairman, ACHP, to Rep. Grijalva & Rep. Bishop, House Natural Resources Committee 2 (Apr. 30, 2019).

⁴⁹ Letter from Lawrence T. Turk, Superintendent, Chaco Culture National Historical Park, to Lindsay Eoff, Project Manager, BLM 4 (May 29, 2013).

⁵⁰ Van Dyke, Lekson, and Heitman, Chaco Landscapes: Data, Theory and Management 1 (Feb. 25, 2016).

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.

VI. The Proposed Withdrawal is Needed to Protect 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 Pueblo Tribes of New Mexico and the Navajo Nation. The Pueblos trace their ancestry to Chaco’s many ceremonial and sacred sites, as well as to traditional cultural places on this landscape. Pueblo ancestors have lived and practiced ritual within Chaco’s boundaries 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 Pueblos and the Navajo Nation identify many traditional cultural places here.

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.

⁵³ SLO EO 2019-002

⁵⁴ *Id.*

⁵⁵ Reed 2020.

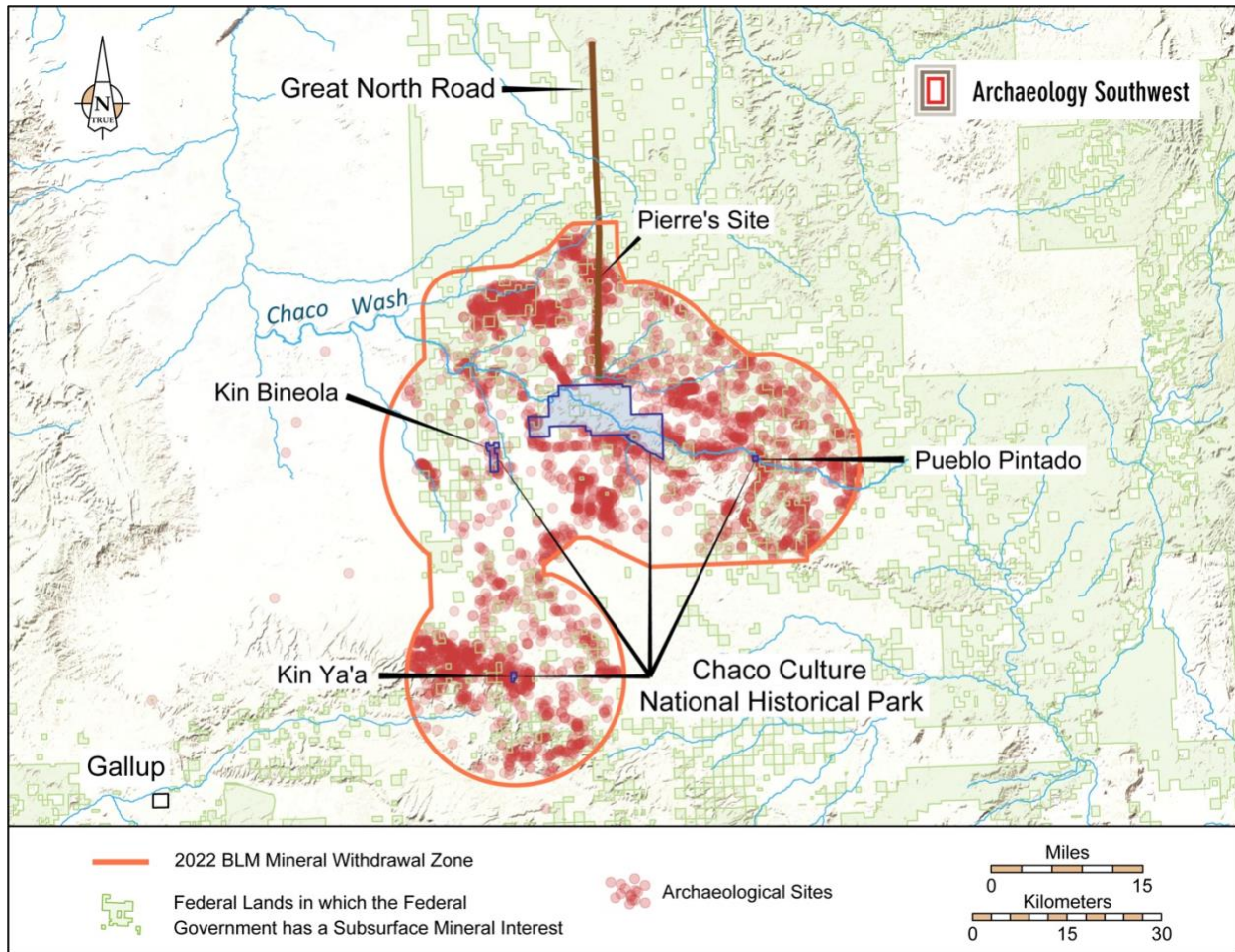


Figure 1

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 Ketl, 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 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 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.

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.

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

⁵⁶ Reed 2020.

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

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.

⁵⁷ See Van Dyke 2017

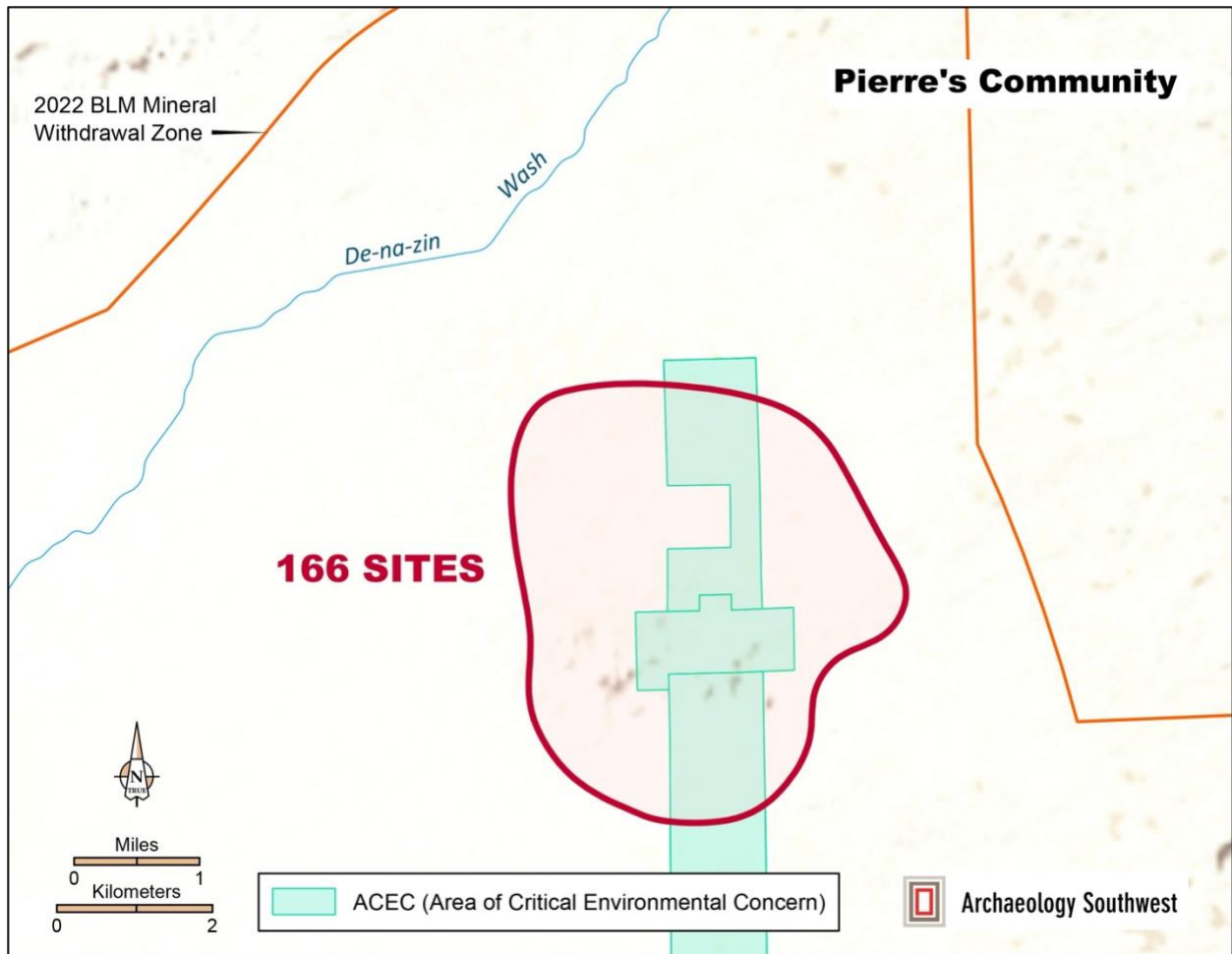


Figure 2

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.

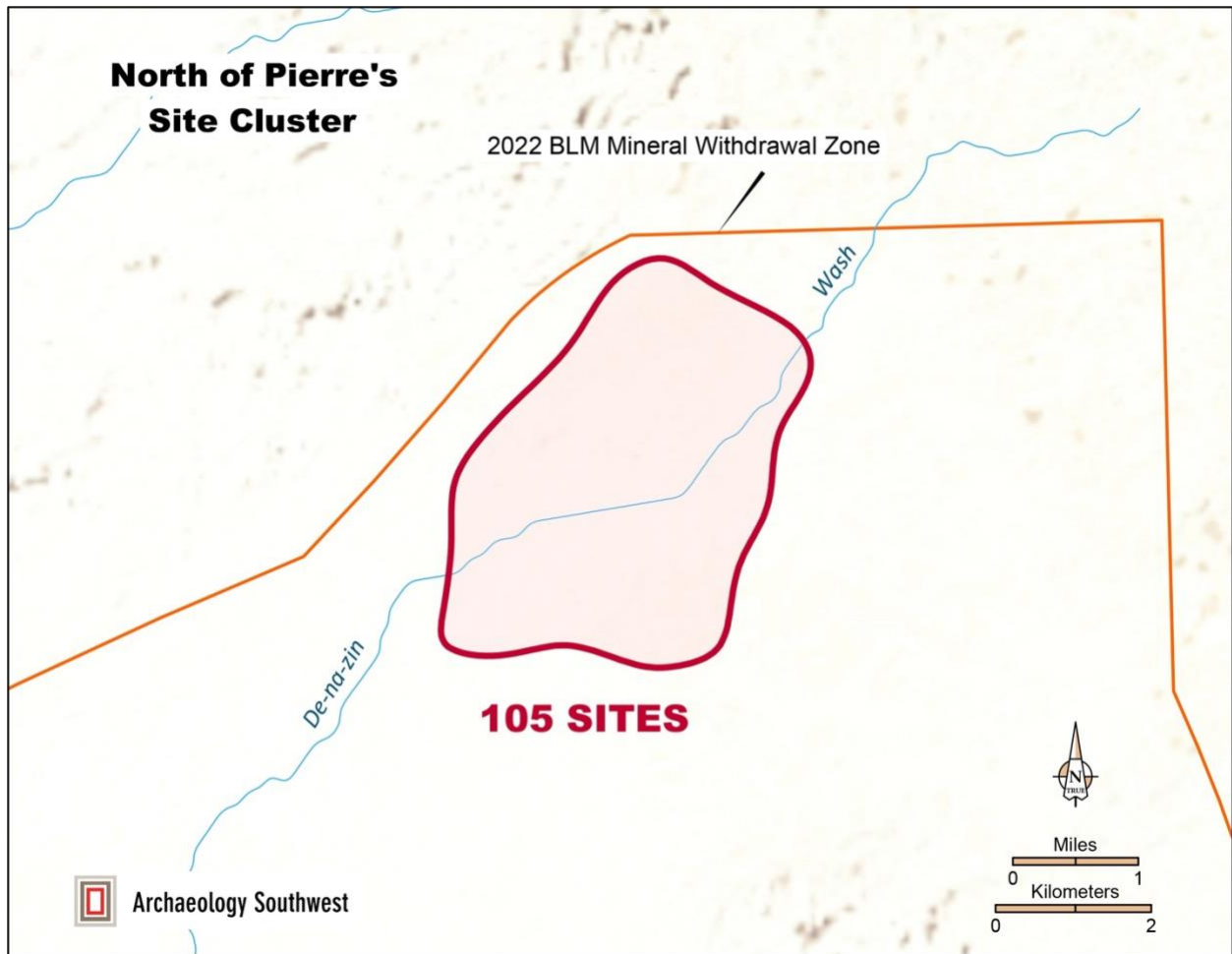


Figure 3

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.

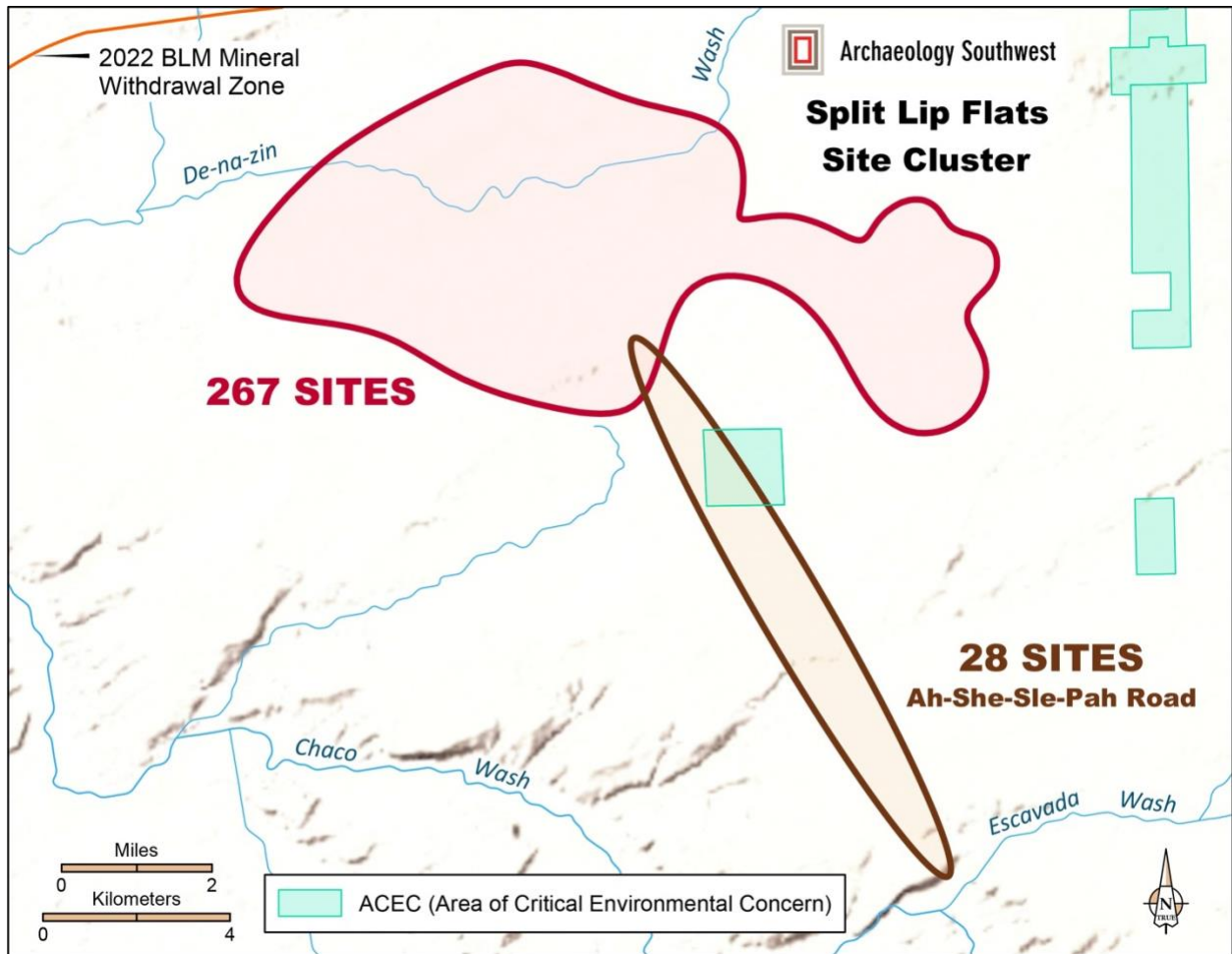


Figure 4

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.

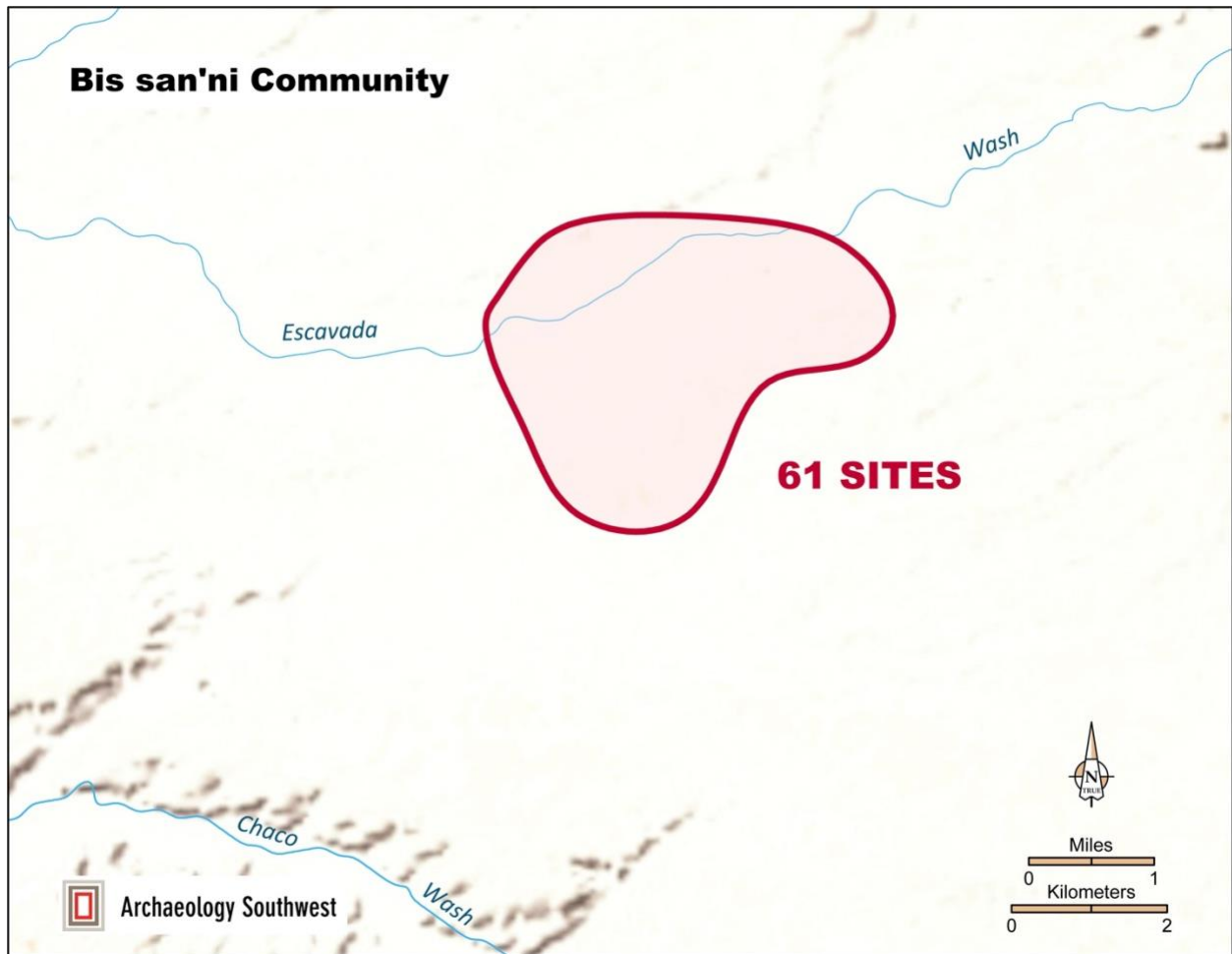


Figure 5

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.

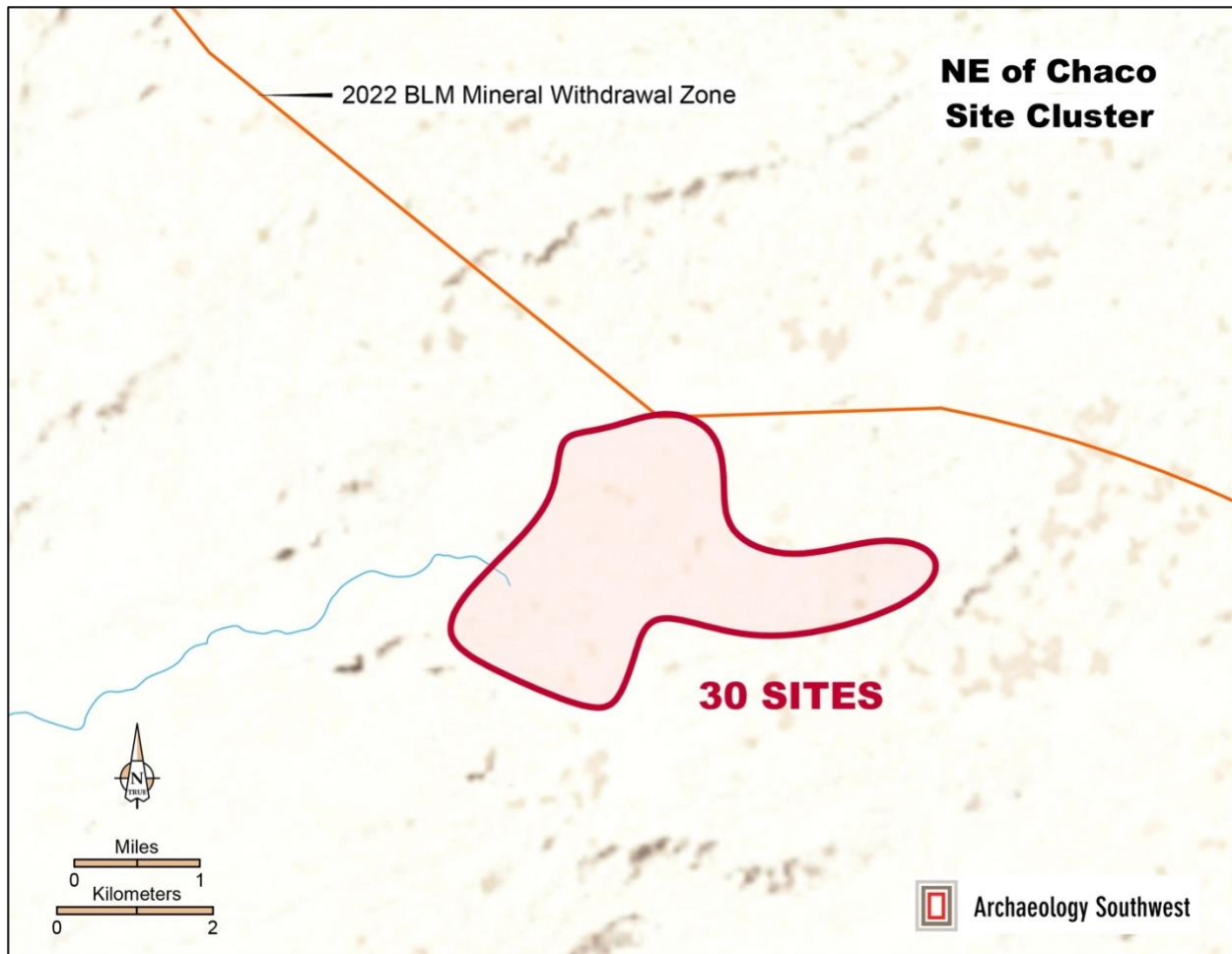


Figure 6

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.

Other than the Pueblo of Acoma's 2018 project with Archaeology Southwest (Anschuetz, 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. 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.

V. The Proposed Withdrawal Will Support Local Community Health and Well-Being.

Not only does BLM have the inherent authority to withdraw these lands from mineral development, but it is imperative for a number of resource values as well as the surrounding communities that BLM withdraw these lands from mineral development.

a. BLM must analyze impacts to community health and well-being throughout the environmental analysis.

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

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.

Additionally, evaluating and addressing the impacts to the health and economic welfare of surrounding communities must be an integral part of the ongoing environmental analysis. As stated throughout these comments, it will be important for the agencies to incorporate into this assessment a clear commitment and framework for ongoing consultation and coordination with Pueblos, Tribes, and residents.

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

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

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/presidential-actions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackle-climate-crisis/>

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).

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

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.

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.⁶² 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 in light of the heightened health risks of residing within .5 mile or less of unconventional oil and gas drilling sites.

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

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 the frequency 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.

⁶⁰ See <https://www.psr.org/blog/resource/compendium-of-scientific-medical-and-media-findings-demonstrating-risks-and-harms-of-fracking/>

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).

⁶² See Celia Lewis et al., Setback Distances for Unconventional Oil and Gas Development: Delphi Study Results. *13 PLoS One* e0202462 (Aug. 16, 2018).

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).

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.

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

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.

b. BLM should analyze socio-economic impacts and develop measures to mitigate those impacts as necessary.

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

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>.

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

community members understand and respond to the social and economic impacts of a high intensity industrial activity like hydraulic fracturing.⁶⁸

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.

VI. The Proposed Withdrawal Will Benefit the Climate and Mitigate the Impacts of Climate Change.

The primary purpose of the proposed withdrawal is to protect Chaco Canyon and the greater connected landscape's rich Tribal and cultural legacy. 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

⁶⁸ See <https://headwaterseconomics.org/energy/oil-gas/energy-monitoring-practices/>.

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.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.

As documented in the Farmington Field Office – Mancos-Gallup Draft Environmental Impact Statement and Resource Management Plan Amendment (RMPA) completed in February 2020, oil and gas development has been the predominant use in the Farmington Field Office for decades.⁷⁴ BLM has already leased 1.8 million acres in the Farmington Field Office for development – an astonishing “92% of Federal fluid minerals within the planning area.”⁷⁵ Industry has also drilled over 37,000 wells and built a 15,000-mile long network of access roads within the planning area.⁷⁶ And if nothing changes (i.e., under the Draft RMPA’s no-action alternative), then oil and gas leasing could continue on 95 percent of the planning area.⁷⁷

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.

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).

⁷⁴ See Farmington Mancos-Gallup Draft Environmental Impact Statement and Resource Management Plan Amendment, available online at: <https://eplanning.blm.gov/eplanning-ui/project/68107/510>

⁷⁵ *Id.* at 1.

⁷⁶ *Id.* at AE-92.

⁷⁷ *Id.* at 3-121.

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”).

VII. The Proposed Withdrawal is Needed to Protect Chaco's International Dark Sky Certification.

CCNHP was first established as a national monument in 1907 to preserve and tell the story of Chaco Canyon, which continues to be an important cultural center for tribal communities today. The park protects many of these impressive structures and is one of the largest collections of ancestral sites north of Mexico. While the footprint of CCNHP itself is small, the larger connected cultural landscape is vast. In and around the park, ecological resources, cultural sites, properties, and resources are greatly significant and essential to the integrity of the landscape – including clean air and water, wildlife habitat, culturally significant sites including vegetation, and dark night 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

In 2013, CCNHP was officially designated a Dark Sky Park by the International Dark Sky Association. The park's natural nighttime darkness, commitment to reducing light pollution, and ongoing public outreach led to its certification. Chaco takes advantage of this asset through evening astronomy programs at their public observatory, where visitors can observe the clear and dark night sky.⁸⁰

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

"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

⁷⁹ Sofaer, Anna. Chaco Astronomy: An Ancient American Cosmology. Ocean Tree Books, 2008.

⁸⁰ <https://www.nps.gov/chcu/learn/nature/darkskypark.htm>

⁸¹ Air pollution and visitation at U.S. national parks. Science Advances. 4. eaat1613. 10.1126/sciadv.aat1613.

⁸² Air Quality Related Values in National Parks.

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.

VIII. The Proposed Withdrawal Directly Benefits the Species in the Area, and Supports the Protection of Federally-listed Threatened and Endangered Species.

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

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.

VI. Conclusion

Once again, the undersigned strongly support this proposal and encourage the Bureau of Land Management (BLM) to act swiftly and ensure protection for the next 20 years. This withdrawal allows the BLM to better meet its obligations to the CCNHP and the WHS of which it is part. This withdrawal will also significantly benefit a number of resources, as well as the surrounding communities. Please include this letter in the project record. We look forward to continuing to work with the BLM, and the Farmington Field Office, to protect Greater Chaco.

Sincerely,

[https://www.nps.gov/articles/aqrv-assessment.htm#:~:text=Air%20quality%20related%20values%20\(AQRVs,%20ecological%20or%20recreational%20resource.&text=particles%20affecting%20visibility%20and](https://www.nps.gov/articles/aqrv-assessment.htm#:~:text=Air%20quality%20related%20values%20(AQRVs,%20ecological%20or%20recreational%20resource.&text=particles%20affecting%20visibility%20and)

⁸³ Chaco Night Sky Program.

<https://www.nps.gov/chcu/planyourvisit/nightssky.htm#:~:text=Over%203%2C000%20visitors%20and%20school,to%20image%20deep%2Dspace%20objects>.

⁸⁴ Chaco Culture National Historical Park-Nature, <https://www.nps.gov/chcu/learn/nature/index.htm>

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