September 25, 2020

SUBMITTED VIA ePLANNING & FIRST-CLASS MAIL

BLM Farmington Field Office,
Attn.: Sarah Scott, Project Manager,
6251 College Blvd, Suite A,
Farmington, NM 87402

Re: Comments on the Farmington Mancos-Gallup Draft RMP Amendment and EIS

Dear Ms. Scott:

Please accept the following comments on the Farmington Mancos-Gallup Draft Resource Management Plan Amendment (RMPA) and Environmental Impact Statement (EIS) from Archaeology Southwest, Audubon New Mexico, Coalition to Protect America's Parks, Izaak Walton League, National Audubon Society, National Parks Conservation Association, National Trust for Historic Preservation, National Wildlife Federation, New Mexico Wilderness Alliance, New Mexico Wildlife Federation, The United States Committee for the International Council on Monuments and Sites, and The Wilderness Society. We continue to support the premise of the RMPA, as a new approach to managing oil and gas activity in the Farmington Field Office is desperately needed. For too long, oil and gas development has been prioritized at the expense of northwestern New Mexico's cultural landscapes, natural resources, and native communities. A paradigm shift is needed to restore cultural landscapes and natural ecosystems, as well as to protect native communities and undeveloped lands. Unfortunately, the Draft RMPA/EIS does not advance this vision, and would further imperil cultural landscapes, natural resources, and native communities within the Greater Chaco Landscape and throughout northwestern New Mexico.[1]

We appreciate the Bureau of Land Management's decision to grant a 120-day extension for the Mancos-Gallup planning process pursuant to requests by numerous tribal governments, New Mexico's congressional delegation, state agencies, and others. Unfortunately, the impact of the pandemic has not improved, and we believe that the Department of the Interior (DOI) has denied the public its legal right to participate during the comment period for the Draft RMPA/EIS by failing to grant an additional extension or suspension of the ongoing planning process. 43 U.S.C. § 1739(e). DOI is well-aware of the significant challenges that our nation is facing because of the COVID-19 pandemic. These challenges are particularly acute in northwestern New Mexico where tribal communities are facing some of the highest infection rates in the country. DOI moved forward with "virtual" public meetings in an attempt to gather public input, but given the public is focused on COVID-19 and that internet access is limited throughout the planning area, these virtual meetings are not sufficient. These limited virtual opportunities are in violation of DOI's legal duty to "encourage and facilitate" public participation in the decision-making process for the Draft

[1] We use the term "Greater Chaco Landscape" throughout these comments. This term is widely-used, but lacks an accepted definition and likely means different things to different groups of people. Out of respect for differing interpretations, we will not attempt to define the Greater Chaco Landscape here. However, at a minimum, we believe that the Greater Chaco Landscape includes the area immediately surrounding Chaco Culture National Historical Park (NHP) that would be withdrawn from future oil and gas leasing under the Chaco Cultural Heritage Area Protection Act of 2019. This area includes the viewshed from several sites within Chaco Culture NHP, segments of the Great North Road, and Pierre's Site, along with numerous other Chacoan roads, outliers, and cultural features.

RMPA/EIS. As such, we call on BLM to suspend the RMPA planning process until the COVID-19 public health emergency ends.

For these reasons as well as those provided below, we believe that the Bureau of Land Management (BLM) must prepare a supplemental EIS. A supplemental EIS would allow BLM to correct the legal errors identified below and pursue additional alternatives that emphasized conservation and the well-being of native communities. While a supplement is necessary and legally required, we nevertheless recognize that aspects of the Draft RMPA/EIS would enhance protections for the Greater Chaco Landscape. For this reason, and consistent with our support for the Chaco Cultural Heritage Protection Act of 2019, we endorse the closure of federal lands and minerals to future oil and gas leasing proposed, as described in Alternative B1.

Statement of Mission and Interests

For more than three decades, **Archaeology Southwest** has practiced a holistic, conservation-based approach that we call Preservation Archaeology. By conducting low-impact investigations of big-picture questions, sharing our findings with the public, and developing powerful site protection strategies, we create meaningful connections to the past and respectfully protect its increasingly endangered resources.

Formed in 1919, the **National Parks Conservation Association's** mission is to protect and enhance America's National Park System now and for future generations; our nearly 1.4 million members and supporters nationwide continue to fulfill this mission by working to connect our national parks with their surrounding landscapes.

US/ICOMOS is the **US Committee for the International Council on Monuments and Sites**, a national organization that monitors the condition of and advocates for the preservation of sites in the USA that have been inscribed as World Heritage Sites under the World Heritage Convention, an International treaty endorsed by over 500 nations to which the USA was the first signatory in 1972. The World Heritage List is the modern embodiment of the ancient *Seven Wonders of the World.* Chaco Culture National Historical Park, and surrounding archeological outliers were added to the World Heritage List more than three decades ago, in 1987.

The **Coalition to Protect America's National Parks** (Coalition) is a non-profit organization composed of over 1,800 retired, former, and current employees of the National Park Service (NPS). The Coalition studies, educates, speaks, and acts for the preservation of the National Park System. As a group, we collectively represent over 40,000 years of experience managing and protecting America's most precious and important natural, cultural, and historic resources.

The Wilderness Society is a non-profit organization dedicated to uniting people to protect America's wild places. TWS is one of America's leading public lands conservation organizations. Since 1935, TWS has been dedicated to protecting America's wild places for current and future generations, which requires eliminating climate-changing emissions. We are committed to smart and sensible regulation and work to ensure that public resources are used effectively, efficiently, and responsibly. TWS has offices throughout the country, including an office in Albuquerque, New Mexico. TWS has several thousand members in New Mexico and over one million members and supporters nationwide.

The **New Mexico Wilderness Alliance** is a nonprofit organization dedicated to the protection, restoration, and continued enjoyment of New Mexico's wildlands and wilderness areas, with thousands of members across the state.

The **National Trust for Historic Preservation in the United States** is a private nonprofit organization chartered by Congress in 1949 to "facilitate public participation" in the preservation of our nation's heritage, and to further the historic preservation policy of the United States. *See* 54 U.S.C. § 312102(a). With more than one million members and supporters around the country, the National Trust works to protect significant historic sites and to advocate historic preservation as a fundamental value in programs and policies at all levels of government. In addition, the National Trust has been designated by Congress as a member of the Advisory Council on Historic Preservation, which is responsible for working with federal agencies to implement compliance with Section 106 of the National Historic Preservation Act. *Id.* §§ 304101(8), 304108(a).

The **Izaak Walton League** promotes natural resource protection and outdoor recreation. The organization was founded in 1922 in Chicago, Illinois by a group of sportsmen who wished to protect fishing opportunities for future generations. They named the league after seminal fishing enthusiast Izaak Walton, the 17th century author of *The Compleat Angler*, a classic book about the art and spirit of fishing. It was the first conservation organization with a mass membership. The League led efforts for clean water legislation, achieving initial success with the passage of federal water pollution acts in 1948, 1956 and finally the Clean Water Act of 1972. The League continues to advocate for preserving wetlands, protecting wilderness, and promoting soil and water conservation. Its Save Our Streams (SOS) program involves activists in all fifty states in monitoring water quality.

The **National Wildlife Federation**, one of America's largest conservation organizations, has worked across the country to unite Americans from all walks of life in giving wildlife a voice for over eighty years. NWF has 51 state and territorial affiliates and more than 6 million members and supporters, including hunters, anglers, gardeners, birders, hikers, campers, paddlers, and other outdoor enthusiasts. NWF programs work to protect the 600 million acres of public lands owned by all Americans and has a longstanding interest in ensuring these lands are managed properly for fish, wildlife, and communities.

The **National Audubon Society** is a national nonprofit conservation organization dedicated to protecting birds and the places they need, today and tomorrow, throughout the Americas using science, advocacy, education, and on-the-ground conservation. Audubon has advocated for birds and other wildlife on public lands for over 110 years. Audubon has over 1.8 million members nationwide, and local chapters. **Audubon New Mexico** is a regional office of National Audubon Society, working with partners and four independent Audubon chapters throughout New Mexico. Audubon serves over 13,000 members in New Mexico.

For over a century the **New Mexico Wildlife Federation (NmWF)** has been working on behalf of sportsmen and women. Since 1914 NmWF has advocated for sound wildlife management, access to public lands, protection of our waters, and provided opportunities to pursue the outdoor traditions that helped make America what it is today.

Executive Summary

BLM's Farmington Field Office, in coordination with the Bureau of Indian Affairs (BIA) Navajo Regional Office, has prepared the Draft RMPA/EIS to analyze and update resource management

issues and data and to ensure compliance with applicable laws, regulations, and policies related to further development of the Mancos-Gallup formation. Unfortunately, as fully explained below, the Draft RMPA/EIS is legally deficient and fails to adhere to those authorities, in particular for the following issues: (1) public participation; (2) Greater Chaco Landscape; (3) community and health impacts; (4) climate change; and (5) lands with wilderness characteristics. Notably, a broad and diverse group of stakeholders, including the All Pueblo Council of Governors, federal and state elected officials, and conservation and historic preservation groups, has raised significant concerns for the Draft RMPA/EIS and its failure to adequately account for these issues.

Accordingly, because of these legal deficiencies and significant unresolved concerns, we believe that BLM must prepare and release for public review and comment a supplemental EIS to evaluate additional alternatives and account for significant new information that will be available in the near future. While a supplemental EIS is necessary and legally required, we nevertheless recognize that aspects of the Draft RMPA/EIS would enhance protections for the Greater Chaco Landscape. For this reason, and consistent with our support for the Chaco Cultural Heritage Protection Act of 2019, we endorse the closure of federal lands and minerals to future oil and gas leasing proposed in Alternative B1.

PUBLIC PARTICIPATION DURING THE DRAFT RMPA/EIS COMMENT PERIOD

Actions by DOI to proceed with the planning process in spite of the COVID 19 pandemic raises serious concerns regarding the department's commitment to public participation and tribal consultation, particularly in a time of public health and environmental and social justice crises. The insufficient virtual public meeting process and failure to conduct meaningful tribal consultation and appropriate ethnographic research under the National Historic Preservation Act (NHPA) has resulted in the political disenfranchisement of tribes and laid bare deep environmental injustices. It discounts science, archaeology, and religious practices in favor of authorizing further development in an area that is already more than 90 percent leased and has been extensively developed over the past several decades. As a consequence, the BLM is failing to uphold its responsibility to provide for meaningful public participation and consult in good faith with tribes. Our concerns with the public participation process and related impacts on the plan are detailed in the substantive comments which follow.

GREATER CHACO LANDSCAPE

In spite of longstanding opposition from APCG, federal and state officials, and many other stakeholders, the BLM has chosen a preferred alternative that could open federal lands to drilling right up to the park boundary. Allowing intensive drilling within and beyond the 10-mile area surrounding the park greatly threatens the dark skies for which the park is known, the air quality of the park and connected landscape, and thousands of sacred sites and cultural resources within and outside the park. Further, BLM is proceeding with the planning process in spite of several ongoing studies that will provide will likely provide new information about the significance of cultural resources in the Greater Chaco Landscape. This includes an ethnographic study that Congress approved and appropriate funding for. As a consequence, BLM has violated multiple federal laws that pertain to the analysis and proposed management for the Greater Chaco Landscape, including the National Environmental Policy Act, the NHPA, the Federal Land Policy and Management Act, and the Convention Concerning the Protection of World Cultural and Natural Heritage.

COMMUNITY AND HEALTH IMPACTS

The Draft RMPA/EIS is also deficient because potential direct, indirect, and cumulative impacts on the health and safety of communities in the planning area, in particular those located within the

Greater Chaco Landscape, are not adequately evaluated. This despite the fact that a wealth of studies and methodologies are available which can be employed to assess the probable impacts to human health which existing and new wells would have, the social cost of methane and carbon which would result from 3,000-plus new wells, and the sociocultural impacts from an influx of energy development on communities. Accordingly, BLM must take the required hard look at the impacts of the plan on community health and safety, and incorporate measures to address those impacts in the range of alternatives.

CLIMATE CHANGE

BLM's environmental analysis must acknowledge the key role that oil and gas development plays in causing climate change and the role public lands could play in combating it. Incorporating consideration of such factors as option value would give a full picture of the opportunities the BLM has to improve the land for future generations – not just maximize short-term extractive energy development at great cost and risk to long-term human health, air and water quality, wildlife, and cultural properties and resources. As explained below, the Draft RMPA/EIS has not accounted for and based the range of alternatives on an adequate assessment of how future oil and gas development in the planning area will contribute to climate change.

LANDS WITH WILDERNESS CHARACTERISTICS

In the Draft RMPA/EIS, BLM acknowledges that "trends in areas with wilderness characteristics indicate an overall decreasing quality of naturalness and opportunities for solitude and primitive, unconfined recreation," and that "[a]n increasing amount of oil and gas developments, agricultural infrastructure, recreation developments, routes and [rights of way]" will further decrease the wilderness qualities of these lands. Despite this acknowledgement, BLM is proposing to emphasize other uses *over* preservation of inventoried LWCs in Alternatives C, D, and the no action alternative. These alternatives will only accelerate degradation of wilderness qualities on BLM-inventoried LWCs and additional LWCs inventoried by the New Mexico Wilderness Alliance.

I. LEGAL FRAMEWORK

A. National Environmental Policy Act

1. BLM should continue to apply previous NEPA regulations.

Since 1978, regulations promulgated by the Council on Environmental Quality (CEQ) have guided every federal agency's implementation of the National Environmental Policy Act (NEPA), our nation's environmental "Bill of Rights." 40 C.F.R. Part 1500 (1978). These regulations codified early judicial precedent interpreting the statute, provided the basis for a substantial body of judicial precedent spanning over four decades, and formed the foundation for more specific regulations and policies enacted by individual agencies to implement their particular missions. BLM's NEPA procedures are at the DOI Manual 516 DM 11 and BLM Handbook H-1790-1.

Over the vociferous objections of states, members of Congress, myriad conservation, environmental justice, and public health organizations, and the general public, on July 16, 2020, CEQ issued a final rule rewriting the entirety of its 1978 regulations. 85 Fed. Reg. 43,304 (July 16, 2020) (to be codified at 40 C.F.R. Part 1500). The final rule upends virtually every aspect of NEPA and its longstanding practice, contradicts decades of court interpretations of NEPA's mandates, and undercuts the reliance placed on NEPA by the public, decision-makers, and project proponents. It does so by limiting the scope of actions to which NEPA applies, eviscerating the thorough environmental analysis that lies at the heart of the statute, reducing the ability of the public to

participate in federal agency decision-making, and seeking to limit review of agency NEPA compliance. The legality of the final rule is being challenged in a number of federal lawsuits brought by national and regional environmental justice, outdoor recreation, public health, and conservation organizations, as well as by twenty-seven state attorneys general, territories, cities and agencies.[2]

The new rule purports to apply to all new NEPA processes initiated after September 14, 2020 and provides agencies with discretion to apply it to ongoing NEPA processes begun before that date. 40 C.F.R. § 1506.13 (2020). The final rule directs agencies to revise their NEPA procedures to eliminate inconsistencies with the final rule by September 14, 2021 and seeks to prohibit agencies from imposing more stringent NEPA procedures, representing a massive change from the past 40 years where the regulations functioned as a floor, not a ceiling. *Id.* § 1507.3(b). In the interim, where existing agency NEPA procedures are inconsistent with the revised regulations, the final rule purports to control. *Id.* § 1507.3(a).

With respect to the Draft RMPA/EIS, BLM should <u>*not*</u> seek to apply the final rule. This process has been underway since February 2014 and is clearly not suitable for new governing principles at this late point in the process. Doing so would change the rules of the game midstream, creating significant chaos and confusion for the agency and the public, as well as legal liability. At the outset, BLM is still subject to regulations issued by DOI. To ensure that the environmental consequences of an action are properly considered Congress directed "to the fullest extent possible" that "all agencies of the Federal Government shall . . . develop methods and procedures . . . which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking." 42 U.S.C. § 4332(B). Consistent with the statute's mandate, the DOI adopted implementing regulations that apply to the BLM. *See* 43 C.F.R. § 46.10 et seq. The DOI regulations incorporate by reference the implementing NEPA regulations originally drafted by CEQ in 1978.[3] *See* 43 C.F.R. § 46.20 ("This part supplements, and is to be used in conjunction with, the CEQ regulations except where it is inconsistent with other statutory requirements."). Unless and until the DOI revises its own regulations, the BLM is still bound by the 1978 version of the CEQ regulations that are incorporated into DOI's regulations.

In addition, it would be manifestly unwise and highly inefficient for agencies to begin implementing such sweeping changes in the absence of agency policies, procedures, guidance, and training. Agency data – although it was ignored throughout CEQ's rulemaking process – demonstrates that existing inefficiencies in the NEPA process are largely attributable to inadequate training, budget, and other institutional challenges and factors external to NEPA procedures.[4] Layer on top of those inefficiencies the massive challenges with interpreting and applying the Trump Administration's most significant and far-reaching rollback of environmental law, and it is a recipe for chaos, wasted taxpayer dollars, and litigation to try to apply the new CEQ regulations to the Mancos-Gallup planning process. That is especially true where the final rule creates conflict with governing case law, agency regulations and guidance, and longstanding practices that the public, decision-makers, and the courts have relied upon for the past four decades.

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[2] *Alaska Community Action on Toxics v. CEQ*, No. 3:20-cv-05199 (N.D. Cal. July 19, 2020); *Wild Virginia v. CEQ*, No. 3:20-cv-00045-NKM (W.D. Va. July 29, 2020); *Environmental Justice Health Alliance v. CEQ*, No. 1:20-cv-06143 (S.D.N.Y. Aug. 6, 2020); *State of California v. CEQ,* No. 3:20-cv-06057 (N.D. Cal. Aug. 28, 2020).

[3] *Id*. § 46.20 (This part supplements, and is to be used in conjunction with, the CEQ regulations except where it is inconsistent with other statutory requirements."). The CEQ Regulations were finalized at 43 Fed. Reg. 56003 (Nov. 29, 1978).

[4] See David Adelman et al., Comments on the Council on Environmental Quality NPRM Update to the Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, Docket Id. CEQ-2019-0003-169621, pp.7-10 (Mar. 9, 2020) (on behalf of 95 law professors).

Moreover, even if they do ultimately go into effect, the new regulations cannot overcome the plain language of the statute and the weight of decades of precedent. The plain language of NEPA requires a thorough analysis of environmental effects. NEPA requires federal agency recommendations on "major Federal actions significantly affecting the quality of the human environment" to be accompanied by a detailed statement that discusses, among other things, the "environmental impact of the proposed action," "[a]ny adverse environmental effects which cannot be avoided should the proposal be implemented," and "the relationship between local short-term uses of man's environment and the maintenance and enhancement of long term productivity." 42 U.S.C. § 4332(2)(C). Since well before the issuance of any regulation, courts have confirmed that this language requires federal agencies to analyze the potential effects, including the indirect and cumulative impacts, of their actions. *See, e.g.*, *Hanly v. Kleindienst*, 471 F.2d 823, 830-31, 836 (2d Cir. 1972); *City of Rochester v. U.S. Postal Service*, 541 F.2d 967, 972 (2d Cir. 1976) (citing *Scientists' Inst. for Pub. Info. v. Atomic Energy Comm'n*, 481 F.2d 1079, 1086-87 (D.C. Cir. 1973)). Further, the Supreme Court has held that NEPA requires consideration of the "cumulative or synergistic environmental impact" of multiple proposals pending concurrently before an agency, and stated that such impacts "must be considered together. *Kleppe v. Sierra Club*, 427 U.S. 390, 410 (1976), citing NEPA, 42 U.S.C. § 102(2)(C). BLM may not seek to narrow the scope of the potential environmental consequences of the decisions it is making in the Mancos-Gallup RMPA.

2. BLM must comply with long-standing NEPA laws & policies.

NEPA establishes the baseline for environmental protection in our country. 42 U.S.C. § 4321; *see also N.M. ex rel. Richardson v. BLM*, 565 F.3d 683, 703 (10th Cir. 2009) (describing NEPA as the "centerpiece of environmental regulation in the United States. . . ."). NEPA aims to "foster and promote the general welfare" of "present and future generations of Americans" and "create and maintain conditions under which man and nature can exist in productive harmony. . . ." 42 U.S.C. § 4331(a). Accordingly, BLM and BIA must "use all practicable means" to ensure that their management plans "fulfill the responsibilities of each generation as trustee of the environment for succeeding generations" and "preserve important historic, cultural, and natural aspects of our national heritage. . . ." *Id*. § 4331(b). To achieve these goals, NEPA requires BLM/BIA to prepare an EIS, that includes, among other provisions, a description of the affected environment, alternatives to the proposed action, and a discussion of potential environmental impacts. *Id*. § 4332(2)(C).

First, BLM/BIA must "succinctly describe the environment of the area(s) to be affected . . . by the alternatives under consideration." 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1502.15. Federal courts refer to this requirement as "establishing the baseline conditions which exist in the vicinity" of project areas. *Half Moon Bay Fishermans' Marketing Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988). "[W]ithout this data, an agency cannot carefully consider information about significant environmental impacts." *N. Plains Res. Council v. Surface Trans. Bd.*, 668 F.3d 1067, 1085 (9th Cir. 2011); *see also Or. Natural Desert Ass'n v. Jewell*, 840 F.3d 562, 571 (9th Cir. 2016) ("Having no reasonable assessment as to whether sage grouse are present . . ., the BLM could not assess the Project's impacts to them, qualitatively or quantitatively."). Importantly, BLM/BIA must obtain whatever data is necessary to satisfactorily characterize baseline conditions "before the [management plans are] approved, not afterward." *N. Plains Res. Council*, 668 F.3d at 1083.

Second, BLM/BIA must develop and "rigorously" evaluate a reasonable range of alternatives. 42 U.S.C. § 4332(2)(C)(iii); 40 C.F.R. § 1502.14. This requirement is "the heart of the environmental impact statement." *Id*. Special emphasis is placed on the range of alternatives requirement because "[w]ithout substantive, comparative environmental impact information regarding other possible courses of action, the ability of an EIS to inform agency deliberation and facilitate public involvement would be greatly degraded." *N.M. ex rel. Richardson*, 565 F.3d at 708. A "rule of

reason" governs whether an EIS's range of alternative is adequate, which "is measured against two guideposts. First, when considering agency actions taken pursuant to a statute, an alternative is reasonable only if it falls within the agency's statutory mandate. Second, reasonableness is judged with reference to an agency's objectives for a particular project." *Id*. at 708-09 (internal citations omitted).

Finally, BLM/BIA must identify and disclose the direct, indirect, and cumulative impacts of its alternatives. 42 U.S.C. § 4332(2)(C)(i); 40 C.F.R. § 1502.16. This means that BLM/BIA must take a "hard look" at the potential environmental consequences of the Draft EIS's alternatives. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989); *Wyoming v. U.S. Dep't of Agric.*, 661 F.3d 1209, 1263 (10th Cir. 2011). "Direct" impacts "are caused by the action and occur at the same place and time. . . ." 40 C.F.R. § 1508.8(a). "Indirect" impacts "are caused by the action and are later in time or farther removed in distance, but are reasonably foreseeable." *Id*. § 1508.8(b). "Cumulative" impacts "result[] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." *Id.* § 1508.7. "An agency meets the 'hard look' requirement when it has made a reasoned evaluation of the available information and its method was not arbitrary or capricious." *Biodiversity Conservation All. v. Jiron*, 762 F.3d 1036, 1086 (10th Cir. 2014) (internal citations & quotations omitted). As explained above, and consistent with controlling case law, BLM must comply with these requirements even if it decides to utilize the recently-adopted revisions to CEQ's NEPA regulations.

B. National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to follow a mandatory consultation process when proposed "undertakings" may affect historic properties. 54 U.S.C. § 306108; 36 C.F.R. Part 800. Land use planning is an "undertaking" subject to the Section 106 process. State Protocol Agreement Between the New Mexico Bureau of Land Management and the New Mexico Historic Preservation Officer Regarding the Manner in Which BLM Will Meet Its Responsibilities Under the National Historic Preservation Act in New Mexico 13 (requiring BLM to follow the process set forth in the Section 106 regulations for "Resource Management Plans (RMPs) and RMP Amendments") [hereinafter "New Mexico Protocol]; *see also Mont. Wilderness Ass'n v. Connell*, 725 F.3d 988, 1008 (9th Cir. 2013) (treating land use planning as a Section 106 undertaking); *San Juan Citizens Alliance v. Norton*, 586 F. Supp. 2d 1270, 1292 (D.N.M. 2008) (same). Under the New Mexico Protocol, BLM must follow the Section 106 regulations, rather than the Protocol's procedures, when engaging in land use planning. New Mexico Protocol at 13.

When, as here, BLM/BIA are evaluating alternatives for "large land areas," the agencies may employ a "phased process to conduct identification and evaluation efforts." 36 C.F.R. § 800.4(b)(2); *see also id.* (allowing federal agencies to "defer final identification and evaluation of historic properties if it is specifically provided for in . . . a programmatic agreement executed pursuant to § 800.14(b)"). A "phased" process allows BLM/BIA to complete the Section 106 process at a later time when "specific aspects or locations of an alternative are refined. . . ." *Id.* Nevertheless, at the land use planning stage, BLM/BIA must still ensure that they have made a "reasonable and good faith effort" to identify historic properties, consulted in "good faith" with Indian tribes, the New Mexico State Historic Preservation Office (SHPO), and other consulting parties, identified and evaluated potential

effects on historic properties, and taken appropriate steps to address and resolve any adverse effects. *Id.* §§ 800.3 – 800.6.[5]

First, BLM/BIA must make a "reasonable and good faith effort" to identify historic properties within the "area of potential effects" (APE) for the Farmington RMPA. *Id*. § 800.4(b)(1). To satisfy this requirement, BLM must, "at a minimum, [conduct] a review of existing information on historic properties that are located or may be located within the APE. . . ." ACHP, Meeting the "Reasonable and Good Faith" Identification Standard in Section 106 Review at 2.3. However, additional identification efforts, including "consultation, oral history interviews, sample field investigation, and field survey," are also required when tribes have "indicated the existence of traditional cultural properties. . . ." *Pueblo of Sandia v. U.S. Forest Serv*., 50 F.3d 856, 860 (10th Cir. 1995).

Second, BLM/BIA "shall involve . . . consulting parties . . . in findings and determinations made during the Section 106 process." 36 C.F.R. § 800.2(a)(4). Consulting parties include the New Mexico SHPO Indian tribes, and others "with a demonstrated interest in the undertaking. . . ." *Id*. § 800.2(c). When undertakings may affect historic properties "of traditional religious and cultural importance" to Indian tribes, BLM/BIA's consultation responsibilities are heightened. *Id*. § 800.2(c)(2)(ii); *see also* Executive Order No. 13007 (directing federal agencies to "avoid adversely affecting the physical integrity of . . . sacred sites"); *Pueblo of Sandia v. United States*, 50 F.3d at 860 (requiring more than "a mere request for information" when an undertaking's APE includes properties of traditional religious and cultural importance).

Third, BLM must fully assess the potential for adverse effects on historic properties. Under Section 106, BLM must "apply the criteria of adverse effect to historic properties within the area of potential effects." 36 C.F.R. § 800.5(a). Those criteria include "cumulative" effects, as well as effects on "the property's setting that contribute to its historic significance" and "visual, atmospheric or audible" effects "that diminish the integrity of the property's significant historic features. . . ." *Id*. § 800.5(a)(1), (a)(2)(iv), (v).

Finally, BLM/BIA must "develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize or mitigate adverse effects on historic properties." *Id*. § 800.6(a). A finding of "adverse effects" triggers a duty to notify and involve the Advisory Council on Historic Preservation (ACHP). *Id.* § 800.6(a)(1). BLM/BIA must also involve consulting parties, including the NM SHPO and tribes, in efforts to resolve adverse effects. *Id*. § 800.6(b).

C. Federal Land Policy and Management Act

Under the Federal Land Policy and Management Act (FLPMA), BLM must manage public lands "on the basis of multiple use and sustained yield. . . ." 43 U.S.C. §§ 1701(a)(7). Accordingly, BLM must strive 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; and harmonious and coordinated management of the various resources without per-manent impairment

[5] *See also* CEQ and ACHP, NEPA AND NHPA: A HANDBOOK FOR INTEGRATING NEPA AND SECTION 106*, at 20, 26, 35 (Mar. 2013), available at* https://www.achp.gov/sites/default/files/2017-02/NEPA_NHPA_Section_106_Handbook_Mar2013_0.pdf.

> of the productivity of the land and the quality of the environment with considera-tion being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.

Id. § 1702(c). Importantly, as the Tenth Circuit has stressed, "[i]t is past doubt that the principle of multiple use does not require BLM to prioritize development over other uses." *N.M. ex rel. Richardson*, 565 F.3d at 710; *see also Nat'l Mining Ass'n v. Zinke*, 877 F.3d 845, 872 (9th Cir. 2017) ("Nor does [multiple use] preclude the agency from taking a cautious approach to assure preservation of natural and cultural resources.").

Further, BLM must ensure that its land use plans are based on an "inventory of the public lands, their resources, and other values. . . ." 43 U.S.C. § 1712(c)(4). "This inventory shall be kept current so as to reflect changes in conditions and to identify new and emerging resource and other values." *Id*. § 1711(a). The scope of the inventory requirement encompasses the full range of multiple uses specified in FLPMA. *Or. Natural Desert Ass'n v. BLM*, 625 F.3d 1092, 1099 n.4 (9th Cir. 2010). In addition to the inventory requirement, BLM must ensure that land use plans are "consistent with State and local land use plans to the maximum extent he [or she] finds consistent with Federal law and the purposes of this Act." 43 U.S.C. § 1712(c)(9).

Finally, BLM has a responsibility to "take any action necessary to prevent unnecessary or undue degra-dation of the lands." *Id.* § 1732(b). This dual requirement means that BLM must proactively "prevent, not only unnecessary degradation, but also degradation that, while necessary. . . , is undue or excessive." *Mineral Policy Ctr. v. Norton*, 292 F. Supp. 2d 30, 42 (D.D.C. 2003). To satisfy these requirements, BLM must "disapprove an otherwise permissible . . . operation because the operation . . . would unduly harm or degrade the public lands." *Id*.

D. National Park Service Organic Act of 1916

In contrast to BLM's "multiple use mandate" under FLPMA, units of the National Park System ("parks") are managed by the National Park Service (NPS) under a significantly different statutory mandate established by the NPS Organic Act of 1916, which states, in part:

> [T]he fundamental purpose of the said parks, monuments, and reservations… is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations. (54 U.S.C § 100101(a))

Courts have consistently interpreted the Organic Act *as giving conservation priority over use such that* "when there is a conflict between conserving resources and values and providing for enjoyment of them, conservation is to be predominant" (NPS Management Policies 2006 §1.4.3).

There are two units of the National Park System within the Planning Area for the Draft RMPA/EIS. These are:

1. Aztec Ruins National Monument, Aztec, NM: Building remains of this large Pueblo Indian community from the 1100s have been partially excavated and stabilized. Proclaimed Aztec Ruin National Monument Jan. 24, 1923; renamed Aztec Ruins National Monument July 2, 1928. Boundary changes: July 2, 1928; Dec. 19, 1930; May 27, 1948; Oct. 28, 1988; and

2. Chaco Culture National Historical Park, Nageezi, NM: The canyon contains 13 major prehistoric sites and hundreds of smaller ones, built by the Ancestral Puebloan people. Proclaimed Chaco Canyon National Monument March 11, 1907. Congress enacted legislation in 1980 to add 12,500 acres to the monument and changing its name to Chaco Culture National Historical Park. (16 U.S.C. § 410ii-1(a)).[6]

Given these substantial statutory protections provided to the resources and values of Chaco Culture National Historical Park and Aztec Ruins National Monument under the NPS Organic Act, we believe protection of park resources merits special consideration by BLM; and potential impacts to them should be clearly and specifically analyzed within the Draft RMPA/EIS.

E. Convention Concerning the Protection of the World Cultural and Natural Heritage

The United States is a party to 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 (WHS) 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 Culture is one of just 11 of World Heritage Sites in the United States 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"), and Aztec Ruins National Monument, managed by the National Park Service, as well as several Archaeological Protection Sites ("Outliers", identified in the 1995 Chacoan Outliers Protection Act (PL 104-11), some of which are actively managed by BLM as Areas of Critical Environmental Concern (ACECs), while others recognized for different degrees of protection by alternative in the RMPA. The Outliers are a part of a Chacoan network recognized as a component 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.[7]

II. PUBLIC PARTICIPATION DURING THE DRAFT RMPA/EIS COMMENT PERIOD

Given the ongoing public health crisis because of COVID-19, we were glad to see the multitude of requests for an extension to the ongoing comment period acknowledged by DOI with Secretary Bernhardt's decision to extend the comment period by an additional 120 days. This decision is consistent with requests from Tribal leaders, the Secretary of the New Mexico Department of Energy, Minerals, and Natural Resources, and New Mexico's entire congressional delegation. This decision is also consistent with the public participation requirements under NEPA and FLPMA.

[6] Information source NPS: https://www.nps.gov/aboutus/upload/NPIndex2012-2016.pdf.
[7] *See* http://www.chacoarchive.org/cra/outlier-database/.

While the 120-day extension was welcome and necessary, we stand in solidarity with members of the Navajo Nation, the individual Pueblo Tribes, and the New Mexico Congressional Delegation's requests to suspend the amendment process while the pandemic is ongoing.[8]

Members of the Navajo Nation and the Pueblo Tribes are among the hardest hit by the pandemic, and many Tribal leaders have closed down non-essential government operations. Virtual meetings do not constitute meaningful tribal consultation and fall short of the Trump administration's trust and treaty obligations to Tribes, as members of the Navajo Nation and the Pueblos have repeatedly expressed.

As the All Pueblo Council of Governor's stated in their August 28, 2020 press release:

> Since DOI granted its limited extension, the situation on the ground has remained dire. San Juan County and McKinley County have had some of the highest rates of COVID-19 in the State of New Mexico and in the country. The Pueblos and the Navajo Nation have also had significant COVID-19 cases — threatening the very lives of community members, including elders. Elders often play a critical role in advising tribal governments on cultural resource issues, a significant area of evaluation under the draft RMPA and EIS.[9]

BLM's virtual meetings were not sufficient for meaningful public participation, particularly for Tribal governments and Native communities who disproportionately lack internet connectivity and cell service and are disproportionately impacted by the ongoing pandemic. As such, we call on BLM to suspend the RMPA planning process until the COVID-19 public health emergency ends.

III. GREATER CHACO LANDSCAPE

The Greater Chaco Landscape is one of the most significant cultural landscapes in North America. The canyon itself is a national historical park administered by NPS as a unit of the National Park System. The park is also a core component of the Chaco Culture WHS. In fact, Chaco Culture is the only WHS overseen by BLM, which has jurisdiction over Casamero, Halfway House, Kin Nizhoni, Pierre's Site, and Twin Angels. Following its original designation, the United Nations Education, Scientific and Cultural Organization (UNESCO) expanded the Chaco Culture WHS, which had previously been limited to the canyon proper, to include these sites and to recognize the geographic

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[8] See All Pueblo Council of Governors Request Further Extension and Reassessment of Deadlines ono DOI's Plan for Greater Chaco Region. August 28, 2020. Available at: https://www.apcg.org/uncategorized/all-pueblo-council-of-governors-request-further-extension-and-reassessment-of-deadlines-on-dois-plan-for-greater-chaco-region/; See also Chamberlain, Kendra. "BIA: Navajo members can 'work around' connectivity issues to participate in online forum on oil and gas development." The NM Political Report. August 27, 2020. Available at: https://nmpoliticalreport.com/2020/08/27/bia-navajo-members-can-work-around-connectivity-issues-to-participate-in-online-forum-on-oil-and-gas-development/; *see also* Senators Udall and Heinrich and Representatives Haaland and Lujan's letter to Secretary Bernhardt, calling for a suspension of the Farmington RMPA and onsite inspections for applications for permit to drill while the pandemic is ongoing. Dated August 26, 2020. Available at: https://www.tomudall.senate.gov/imo/media/doc/2020_08_26%20Bernhardt%20Farmington%20District%20and%20Pandemic.pdf.

[9] Available at: https://www.apcg.org/uncategorized/all-pueblo-council-of-governors-request-further-extension-and-reassessment-of-deadlines-on-dois-plan-for-greater-chaco-region/.

breadth of the cultural phenomenon that arose within the canyon and shaped lifeways throughout the Four Corners region for several centuries. As explained by NPS,

> [t]he original nomination underwent an important modification that led to the inclusion of five associated Chaco Greathouse communities managed by the BLM and Aztec Ruins NM, 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. This complex landscape of emblematic monumental architecture is interconnected by a network of constructed road alignments, line-of-sight signaling stations, portions of which are protected within the five BLM Chaco communities.

Letter from Lawrence T. Turk, Superintendent, NPS, to Lindsay Eoff, Project Manager, BLM 3 (May 29, 2013).

Many modern-day pueblos and tribes maintain long-standing cultural affiliations to Chaco Canyon, as well as to specific locations within the surrounding landscape. This includes most, if not all, of the nineteen pueblos in New Mexico, which coordinate on matters of mutual interest through the All Pueblo Council of Governors (APCG). Over the past six years, APCG has grown increasingly concerned about the threat that oil and gas development poses to the Greater Chaco Landscape. In 2014, APCG passed the first of four resolutions on the Greater Chaco Landscape where it stated that

> the issuance of oil and gas leases, drilling permits and approvals for oil and gas roads, pipelines and other types of oil and gas infrastructure in the landscape surrounding Chaco Canyon, which includes traditional cultural properties and sacred sites, . . . threatens irreparable degradation and impairment to that landscape and to the traditional cultural values and sacred sites present within that landscape.

Resolution No. APCG 2014-04. In 2015, APCG passed a second resolution which identified specific traditional cultural properties (TCPs) and/or sacred sites within the Greater Chaco Landscape, "including, but not limited to, the Great North Road, the West road, and Pierre's Site." Resolution No. APCG 2015-17. APCG reiterated these concerns in 2016 and 2017 resolutions, stating that

> preserving the traditional cultural properties and sacred sites that exist in Chaco Canyon and in the Greater Chaco Region, including, but not limited to, the Great North Road, the West Road, and Pierre's Site, along with protection of the night skies, soundscapes, view shed and sight-lines within and surrounding Chaco Canyon is essential to the culture and traditions of APCG members. . . .

Resolution No. APCG 2017-12; *see also* Resolution No. APCG 2016-17. APCG has also endorsed legislation introduced by New Mexico's congressional delegation – the Chaco Cultural Heritage Area Protection Act of 2019 – which would withdraw federal lands and minerals from future oil and gas leasing within roughly ten miles of Chaco Culture NHP. S. 1079, 116th Cong. (2019); H.R. 2181, 116th Cong. (2019). The U.S. House of Representatives passed this bill in October 2019.

Yet, over the years, despite its transcendent cultural significance, the Greater Chaco Landscape has become increasingly industrialized. Long stretches of the Great North Road, a monumental feature that once physically linked Chaco Canyon to Salmon and Aztec Ruins forty miles to the north, have been "destroyed" by oil and gas development. Ruth Van Dyke at al., Chaco Landscapes: Data, Theory, and Management 16 (Feb. 25, 2016). Other sites, including Pierre's, which is part of the world heritage designation, are now "industrial parks." Only a remnant of the Greater Chaco Landscape – the lands located within ten or so miles of Chaco Culture NHP – remains mostly free from intensive oil and gas development.

Meanwhile, as oil and gas development has advanced steadily closer to Chaco Canyon, BLM has resisted calls from tribal leaders, other federal agencies, and professional archaeologists to systematically inventory sensitive locales within the Greater Chaco Landscape and perform ethnographic work with tribal communities. Consequently, there remains a "paucity" of information about the location and nature of TCPs and sacred sites in the Greater Chaco Landscape, in particular those associated with the pueblos. And BLM still does not have "a thorough analysis of the actual rate of change" in the condition of cultural resources, even though oil and gas development has unquestionably caused significant direct and indirect impacts on the Great North Road, Pierre's Site, and other cultural features within the Greater Chaco Landscape.

The Draft EIS would compound these long-standing problems and further diminish the integrity of the Greater Chaco Landscape. As explained below, in light of serious deficiencies within the Draft EIS, BLM must prepare and release for public review a supplemental analysis that accounts for ongoing cultural resources investigations and ethnographic studies, as well as the recent economic downturn, which could have dramatic implications for reasonably foreseeable development in the Farmington Field Office, and includes additional alternatives that prioritize the restoration and long-term protection of the Greater Chaco Landscape.

A. BLM Has Not Complied with the NHPA.

The goal of the Section 106 process, as required by the NHPA and associated regulations, is to identify and avoid, minimize, or mitigate adverse effects on historic properties. The process has four basic steps: establish the undertaking, identify and evaluate historic properties potentially affected by the undertaking, assess effects to those historic properties, and resolve any adverse effects. Here, we do not offer commentary on the process of establishing the undertaking for this planning process; BLM and BIA both agree that the RMPA process is an undertaking that must be evaluated through the Section 106 process.

We address three the remaining three steps in order, below, in assessing the RMPA and EIS.

1. BLM has not adequately identified or evaluated historic properties in the Greater Chaco Landscape.

Federal agencies are required by Section 106 to identify and evaluate historic properties potentially affected by a proposed undertaking. 36 C.F.R. § 800.4. More fundamentally, however, Section 110(a) of the NHPA requires that all historic properties under the jurisdiction or control of a federal agency such as BLM must be "identified, evaluated, and nominated to the National Register," 54 U.S.C. § 306102(b)(1). BLM has failed to comply with that responsibility.

General procedure in New Mexico at the RMPA and EIS level is for Agencies to compile data on previously identified cultural resources (through the State NMCRIS system and other sources),

attempt to project the percentage of the decision area that has been surveyed, and defer most of their remaining identification and evaluation responsibilities to the leasing and APD levels.

This deferral of cultural resource identification and evaluation, while standard procedure, is not acceptable in this case. We address concerns with archaeologically detected resources below. Of greater concern is the lack of ethnographic data on Tribal cultural resources – "culturally important properties" (CIMPPs) in BLM's terminology. As noted in Appendix H (pp. H-1):

> During scoping, there were diverse comments received from Tribal communities and individuals on the potential impacts from oil and gas development and hydraulic fracturing. Some Tribal members, including individuals from Pueblos and the Navajo Nation, felt that oil and gas infrastructure growth was impacting cultural and natural resources, along with Tribal lifeways or CIMPPs. They indicated that agencies lack the ability to identify traditional resources or other sacred sites to which Tribes have long-standing affiliations, and as a result the ongoing fluid mineral development was destroying part of these Tribes' cultural landscape. Tribal members also expressed their concerns about 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.

Thus, the Agencies acknowledge that Tribal concerns have not been met and are on-going. Assessing the planning documents, we conclude that these concerns about proper identification and evaluation of cultural resources have not been addressed. BLM's preferred alternative C does not recommend any specific action to address these concerns.

The specific lack of ethnographic data for the more than 2 million acre decision area has been brought to the Agencies attention at every public meeting since 2014 and in scoping comments. In response to these comments, BLM sought and acquired Federal funds for an ethnographic project. An award of $400,000 was made in Summer 2019 for this project, as reported at a public meeting. Through their contractor EMPSi, BLM initiated this project in the Fall of 2019 with an RFP requesting proposals from Tribes to complete ethnographic work in the decision area. This process has been complicated and Tribes have expressed concerns with the approach taken. With the covid-19 crisis, the process came to a halt in February 2020, with no funds dispersed for Tribes.

As part of the December 2019 appropriation bill that kept the Federal government operating, $1 million in funding was appropriated to the BIA to distribute to Tribes for cultural and ethnographic studies of the Greater Chaco Landscape. This process was initiated in January 2020 and came to a halt with the virus pandemic.

In addition to these studies, Archaeology Southwest has recently completed a pilot project with Acoma Pueblo that explored Acoma's connections to the ancestral landscape across Greater Chaco and identified unique Acoma TCPs. This report will be made public soon and will help the Agencies better manage cultural resources.

In addition to these studies, the Pueblo of Acoma, in cooperation with Archaeology Southwest, recently undertook a pilot project in specific areas of the Greater Chaco Landscape threatened by oil-gas development. *See* Acoma Greater Chaco Project (excerpt). Primary project goals involved exploring and understanding Acoma's connections to the ancestral landscape across Greater Chaco and identifying areas that were at great risk because of ongoing oil-gas development. Numerous

unique Acoma TCPs were identified during the project. *Id.* None of these resources had been identified previously through standard, archaeology-focused CRM projects. Because of this, it is clear that the Agencies are not completing the identification phase of the Section 106 process adequately. Among other recommendations, the Agencies should expedite Native Americans Tribal participation in the leasing and APD stages of oil-gas development. At a minimum, oil-gas companies should be required to complete cultural fieldwork with interested Tribes and Pueblos. The complete Acoma report will be made available soon.

Given that Tribes and other groups have called out the lack of ethnographic data for the Greater Chaco Landscape for years and given the Agencies' acknowledgement that these studies are an important part of completing the Section 106 process (and complying with Section 110(a)), it is very difficult to understand why the agencies are rushing to complete the RMPA and EIS prior to the compilation of critical ethnographic data to be collected during the BLM and BIA projects. Together, these projects total $1.4 million and will certainly have a vast impact on our understanding of use of the cultural landscapes across the decision area, as well as the potential for decisions under consideration in the RMPA to cause adverse effects on historic properties within those landscapes.

If the Agencies move forward with the RMPA and EIS documents without awaiting data from the ongoing ethnographic studies, they will fail to properly complete the identification and assessment component of Section 106 (and Section 110(a)), and will therefore violate the National Historic Preservation Act. None of the alternatives outlined in the RMPA and EIS allow for adequate identification and assessment of cultural resources.

The 10-mile protection zones in Greater Chaco Landscape that surround Chaco Culture National Historical Park contain roughly 4,200 known archaeological, cultural, and historic sites. The 2019 House bill (HR 2181) and pending Senate companion bill, known as the Chaco Cultural Heritage Area Protection Act, will offer permanent protection for these areas, once passed. The 4,200 sites speak to episodic use of the area by various cultural groups (Paleoindian, Archaic, Puebloan, Navajo, and others) from roughly 10,000 BCE into the present. Because less than 20 percent of the area enclosed by the 10-mile zones of protection has been surveyed, the actual site count is undoubtedly much higher than 4,200. In addition, very little recent ethnographic work has been undertaken with any Tribal groups, aside from the Pueblo of Acoma's 2018 project with Archaeology Southwest. Given the dozens of TCPs revealed during Acoma's pilot project, there are probably hundreds if not thousands of TCPs and other Tribal cultural sites that have not yet been identified across Greater Chaco. *See* Paul F. Reed, An Archaeological Reconnaissance of Chaco's 10-Mile Zone of Protection (Sept. 2020).

At least 10 significant ancient Chacoan-Pueblo communities are known to lie within and just beyond the 10-mile zone around Chaco Culture NHP. 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 that originates at Penasco Blanco and trends to the northwest for more than 25 kilometers (19 miles). Most of this 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 documented in the bullets below, these are significant sites the characteristics and condition of which BLM has an obligation to fully document during this RMPA process:

- 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 60 rooms are present at 10 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.

Archaeology Southwest's recent work in the 10-mile zone has revealed additional site clusters and communities that merit protection. Paul F. Reed, An Archaeological Reconnaissance of Chaco's 10-Mile Zone of Protection (Sept. 2020). A primary objective involved looking at the Greater Chaco Landscape at a different scale than is pursued by the Agencies. Typically, Federal Agencies in the West 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 more rare 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 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.

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 has not appeared in the Agencies' playbook. Although the BLM

lands in Greater Chaco are currently leased at more than 90%, this landscape-level approach can be implemented to protect communities and site clusters that have not yet seen impacts, like those seen at the Pierre's Community. *See* 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 (Feb. 16, 2017). The identification of site clusters and communities during the study, in addition to the other communities discussed above make clear that the 10-mile protection zone contains abundant sites, communities, and poorly understood site clusters that require special protection by the BLM and BIA. However, the Agencies' preferred Alternative C offers no protection of any of these sites, site clusters, or communities. Alternative B-1 would offer some protection for this community and all cultural sites on BLM lands in a 10-mile zone around Chaco.

To add to what Van Dyke's study has revealed and what prior BLM GIS-based analysis also showed, Reed 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. This study and the mapping exercise amplify this message, with at least 160 sites of varying ages (primarily Chacoan with some Archaic, Early Navajo, and Historic Navajo manifestations). BLM's ACECs in the area were designed to protect Pierre's and two sections of the Great North Road. However, the ACECs cut through the middle of the community protecting some sites but do not offer any protection for outlying sites that are part of the ancient and historic community. The Pierre's Community is recognized as part of the Chaco's World Heritage designation but beyond BLM's small ACECs, this amazing place has no special protection from oil-gas or other development.

Other examples of site clusters and communities are detailed in Reed's 2020 report on the 10-mile zone. The studied group of ancient and historic communities and site clusters is just a sample of those that lie within the 10-mile protection zones. 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 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.

None of these communities will be adequately protected if the 10-mile zone is reduced to 0, 2, or 4 miles. Further, BLM lacks adequate ethnographic information about the importance of these sites to modern-day pueblos and tribes -- information that the ongoing ethnographic and cultural resources investigations referenced above will likely provide. The effort continues beyond this planning process deadline. Ultimately, Archaeology Southwest will submit a proposal to BLM to create additional zones of protection, either ACECs or another designation, around cultural-historic communities and site clusters across Greater Chaco.

2. BLM has not adequately assessed potential adverse effects on historic properties.

The next step in the Section 106 process is assessment of adverse effects to historic properties. 36 C.F.R. § 800.5. Following the discussion above on identification and assessment of Tribal and ethnographically identified cultural resources, the assessment of effects remains fundamentally inadequate and incomplete, as the full extent of cultural resources is not even known yet. Given that none of the alternatives outlined in the RMPA and EIS allow for adequate identification and

assessment of cultural resources, there is no way to complete a full assessment of effects to historic properties.

3. BLM has not fulfilled its responsibility to resolve adverse effects on historic properties in the Greater Chaco Landscape.

The final step outlined by the Section 106 process is resolving adverse effects. 36 C.F.R. § 800.6. This step must await full identification of cultural resources. The current dataset for the decision area, as discussed above, is woefully inadequate, thus precluding any assessment or resolution of adverse effects to historic properties and CIMPPs.

Once that identification information is available, however, BLM's "resolution" of adverse effects must be shaped by its stewardship responsibilities under Section 110(a)[BM1] of the NHPA, which requires that all historic properties under the jurisdiction or control of a federal agency must be "managed and maintained in a way that considers the preservation of their historic, archeological, architectural, and cultural values in compliance with section [106] and gives *special consideration to the preservation of those values in the case of property designated as having national significance*," (as is clearly the case here). 54 U.S.C. § 306102(b)(1)-(2) (emphasis added). BLM has failed to comply with this responsibility.

B. BLM Has Not Complied with NEPA.

1. The Draft EIS lacks essential baseline information about the Greater Chaco Landscape.

The Draft EIS lacks required information about the location, condition, and significance of cultural resources in the Greater Chaco Landscape. BLM must obtain and evaluate this information to fulfill its obligations under NEPA. Without adequate baseline information about the Greater Chaco Landscape, BLM simply cannot fulfill the "hard look" requirement of NEPA or make an informed choice from among the management alternatives proposed in the Draft EIS. *N. Plains Res. Council*, 668 F.3d at 1085; *Or. Natural Desert Ass'n*, 840 F.3d at 571.

a. The Draft EIS does not provide adequate baseline information about the impacts of past and ongoing oil and gas development on cultural resources in the Greater Chaco Landscape.

The Draft EIS does not adequately characterize the extent to which prior and ongoing oil and gas development has directly, indirectly, and cumulatively affected cultural resources in the Greater Chaco Landscape. BLM seems to agree in the Draft EIS, stating that "no agency has done a thorough analysis of the actual rate of change [in the condition of cultural resources]." Draft EIS at 3-119. This is a glaring deficiency, given the undisputed significance of the Greater Chaco Landscape and the extent to which it has been adversely affected by past and ongoing oil and gas development.

Over the years, other federal agencies, tribes, and archaeological experts have repeatedly raised concerns with BLM about the need for better baseline information on the location, significance, and condition of cultural resources in the Greater Chaco Landscape. For example, NPS, which manages Chaco Culture NHP and shares jurisdiction with BLM over the Chaco Culture WHS, has stated that "[e]nergy exploration and extraction, specifically oil and gas production currently threatens viewshed and the assocciated [sic] cultural landscape." NPS, Periodic World Heritage Report –

Second Cycle 4 (2016); *see also* NPS, Periodic World Heritage Report 21 (2005) ("The park has identified energy development as the greatest external threat to park resources."). In regard to recent oil and gas leasing proposals within the Greater Chaco Landscape, NPS has 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.*

Letter from Lawrence T. Turk, Superintendent, NPS, to Lindsay Eoff, Project Manager, BLM 4 (May 29, 2013) (emphases added); *see also id.* at 7 (". . . 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."). Accordingly, NPS has supported efforts to document the condition of cultural resources in the Greater Chaco Landscape, in particular the Great North Road: "As there has been more activity in this area – from oil and gas development, road construction, and increasing settlement – we have not been in a position to determine with any certainty whether any of these activities have affected the road alignment or its resources." Letter from Barbara J. West, NPS, to Anna Sofaer, The Solstice Project 1 (Jan. 29, 2010).

Similarly, the Advisory Council on Historic Preservation (ACHP) – the independent federal agency established to "advise the President and Congress on matters relating to historic preservation," 54 U.S.C. § 304102(a)(1) – has concluded that "[p]roposed energy development in the vicinity of Chaco Canyon has the potential to impair and degrade sites of both national and international significance, including the Chaco Culture National Historical Park, administered by the National Park Service, and the surrounding network of archaeological sites administered by the Bureau of Land Management and others." Letter from Milford Wayne Donaldson, Chairman, ACHP, to David Bernhardt, Secretary, Department of the Interior 1 (Mar. 11, 2019). "ACHP believes that it is incumbent upon the BLM to not only take the full range of Chacoan sites into account . . . , but to also protect them from all future visual impacts to the maximum extent possible." Letter from Reid J. Nelson, Director, Office of Federal Agency Programs, ACHP, to Lindsay Eoff, Project Manager, BLM, at 2 (May 31, 2013). To protect Chacoan sites "from all future visual impacts to the maximum extent possible," as recommended by ACHP, BLM must first document the current condition of those sites.

Echoing the concerns of NPS and ACHP, numerous tribes have called for additional survey and ethnographic work in advance of further development in the Greater Chaco Landscape. For example, in February 2019, APCG formally protested several proposed oil and gas leases within the Greater Chaco Landscape, asserting that

> there exists a "paucity" of information pertaining to the 20 Pueblos' respective historic properties and traditional cultural properties in this area of the proposed March 2019 Lease Sales. This should give rise to the BLM to conduct more intensive

> efforts, such as sample field investigations or field surveys, including Class III surveys with the collaboration or contribution by qualified experts able to identify the 20 Pueblos' cultural resources.

Letter from E. Paul Torres, Chairman, APCG, to State Director, BLM, at 13 (Feb. 20, 2019). Other tribes, including the Hopi Tribe, have made identical requests over the years. *See, e.g.,* Letter from Leigh J. Kuwanwisiwma, Director, Hopi Cultural Preservation Office, to Steve Henke, District Manager, BLM 1 (Mar. 8, 2010) (requesting "an on the ground assessment" prior to oil and gas leasing in the vicinity of Chaco Culture NHP).

Finally, professional archaeologists, many of whom are recognized experts on the Greater Chaco Landscape, have warned BLM against authorizing further development without first taking steps to document the condition of cultural resources in the Greater Chaco Landscape. For example, a white paper issued by Ruth Van Dyke, Stephen Lekson, and Carrie Heitman in 2016 stressed that

> [s]ound is an understudied experiential aspect of the Chacoan landscape that begs for further attention. It is likely that Chacoan ritual involved songs, chants, drums, bells, flutes, and shell trumpets. Archaeologists and anthropologists have barely begun to undertake investigations into ancient soundscapes. . . . Experimental studies have focused on architectural spaces and natural places, but no work has been undertaken outside of the park. The Chaco soundscape, which is a major landscape feature and experience, is one of the most fragile aspects of this landscape to be threatened by energy development.

Ruth Van Dyke at al., Chaco Landscapes: Data, Theory, and Management 16 (Feb. 25, 2016). This white paper, along with similar reports, have been repeatedly provided to BLM during decision-making processes for proposed oil and gas leasing in the immediate vicinity of Chaco Culture NHP. *E.g.*, Letter from Paul Reed et al., Preservation Archaeologist, Archaeology Southwest, to Aden Seidlitz, Acting State Director, BLM Attach. 17 (Jan. 4, 2018). Archaeology Southwest's recent 10-mile zone study reinforces the idea that BLM and BIA do not know nearly enough about the cultural resources in the area to make informed decisions. *See* Paul F. Reed, An Archaeological Reconnaissance of Chaco's 10-Mile Zone of Protection (Sept. 2020).

Requests to make better decisions and fill gaps in data remain unaddressed, as "no agency has done a thorough analysis of the actual rate of change [in the condition of cultural resources]." Draft EIS at 3-119; *see also id.* at EC-42 ("The information on historic properties and CIMPPs in the decision area . . . [is] geographically biased toward past project-oriented undertakings (i.e., where cultural resource surveys have taken place) and may not accurately predict where and how many resources may exist in unsurveyed areas."). The Draft EIS contains no evidence to suggest that BLM, in preparation for and in order to inform the Draft EIS's range of alternatives and environmental analysis, undertook a systematic effort to assess the current condition of cultural resources in the Greater Chaco Landscape. *See, e.g. id.* at EC-42 (stating that cultural resources data for the planning area is "biased" toward areas with existing development and "and may not accurately predict where and how many resources may exist in unsurveyed areas"); *id.* at 3-118 to -19 (revealing that "approximately 53 percent" of the more than 32,000 cultural resources identified in the planning area "have an unknown determination of eligibility" for the National Register of Historic Places). This includes documenting the current state of the Great North Road, as well as other Chacoan roads, and assessing the extent to which past and present oil and gas infrastructure has damaged them.

That such damage has occurred in the past and is continuing to an unknown degree is undisputed:

> [i]n the case of the Great North Road, modern roads to facilitate energy development have disturbed its course, and proposed increases in this activity threatens further disturbance to this and other ancient roads. The continuing demand for natural resource extraction in the greater Chaco landscape—including oil, gas, coal, and grazing land—as well as severe droughts and rainstorms of recent history have created an increased rate of sedimentation and erosion.

Richard A. Friedman, Anna Sofaer & Robert S. Weiner, Remote Sensing of Chaco Roads Revisited 2 (2017); *see also* Van Dyke et al. at 50 ("Sadly, energy development in the 20th century has destroyed virtually any traces of the North Road between Kutz Canyon and Aztec."). BLM has also concluded that proposed oil and gas activity in the vicinity of the Great North Road "could potentially involve significant access issues . . . [and] could intrude across the Chaco North Road." Letter from David J. Mankiewicz, Assistant Facility Manager, BLM, to Leigh J. Kuwanwisiwma, Director, Hopi Cultural Preservation Office 2 (Dec. 23, 2009). Yet, the Draft EIS sheds no light on the present condition of the Great North Road and other Chacoan roads in the planning area.

Additionally, the Draft EIS does not provide baseline information on the condition of the viewshed and soundscape surrounding Chacoan outliers, roads, and other significant cultural features in the Greater Chaco Landscape. According to recognized archaeological experts, "[t]he Chaco soundscape is one of the most fragile aspects of this landscape to be threatened by energy development. Trucks, wells, and fracking could forever destroy our ability to study and understand the relevance of acoustic properties to Chacoan ritual and identity." Ruth Van Dyke, Stephen Lekson and Carrie Heitman, Chaco Landscapes: Data, Theory and Management at 65-66. A viewshed and soundscape analysis conducted at Pierre's Site by archaeologist Ruth Van Dyke in 2016 shows that this information is readily obtainable. 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 (Feb. 16, 2017).

More importantly, Van Dyke found that

> [d]espite 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. . . . Noise from the nearest pumpjack . . . is audible from throughout the community. . . . Looking south towards Chaco Canyon, numerous pumpjacks . . . dot the valley floor. Rather than a sacred landscape and part of a UNESCO World Heritage Site, *the Pierre's community today has the feeling of an industrial park*. Clearly, the BLM did not take indirect and cumulative effects of the oil and gas drilling into account (as required by NEPA) when these drills were authorized.

Id. at 15 (emphasis added). Contrary to its obligations under NEPA, BLM neither addressed the results of this study in the Draft EIS nor undertook similar studies at other sites in the Greater Chaco Landscape. *See* 40 C.F.R. § 1502.22 (directing BLM to obtain missing information "relevant to reasonably foreseeable significant adverse impacts" if the costs of doing so are not "exorbitant"). As federal courts have explained, NEPA imposes an "obligation [on BLM] to ensure that data exists *before approval* so that [it] can understand the adverse environment [sic] effects. . . ." *N. Plains Res. Council*, 668 F.3d at 1085 (emphasis in original). BLM has not done so in the Draft EIS.

b. The Draft EIS lacks necessary baseline information about TCPs, sacred sites, and other properties of cultural or religious significance to tribes.

BLM failed to obtain sorely needed information about properties of cultural or religious significance to tribes, including TCPs and sacred sites. During the NEPA process, BLM has an obligation to identify and evaluate potential impacts on TCPs and sacred sites. *See Pueblo of Sandia*, 50 F.3d at 859 (recognizing TCPs as historic properties under Section 106); National Park Service, National Register Bulletin 38: Guidelines for Evaluating and Documenting Traditional Cultural Properties (same). Yet, in the Draft EIS, BLM suggests that certain TCPs and sacred sites in the planning area "may not qualify as historic properties" and are owed no protection under the NHPA. Draft EIS at 3-120. It is not clear what the legal basis for this opinion is or which sacred sites and TCPs in the planning "may not qualify." Regardless, TCPs are historic properties under the NHPA and must be treated and managed as such.

Further, in the past, BLM has expressed a bias for TCPs and sacred sites of the Navajo Nation, rather than TCPs and other sites with cultural significance to the pueblos. In the 2003 Farmington Field Office RMP, BLM identified 73 TCPs, most or all of which in conjunction with the Navajo Nation. BLM, Farmington RMP and Record of Decision 9 (Dec. 2003). BLM agreed to "work cooperatively with the Navajo Nation [but, apparently, none of the pueblos or any other tribe] to ensure that any other areas of interest are identified so site-specific consultations can be targeted." *Id.* BLM downplayed the pueblos' long-standing ties to the Greater Chaco Landscape, stating that these "connections with the Zuni, Hopi, and Rio Grande pueblos are earlier and less well understood." *Id*. at C-65. And only recently, beginning in approximately 2009, did BLM begin to notify the pueblos about proposed oil and gas leases in the vicinity of Chaco Culture NHP. Letter from Steve Henke, District Manager, BLM, to Ti Hays, National Trust for Historic Preservation, at 2 (Nov. 4, 2009).

It is not clear that BLM has overcome this bias in the Draft EIS and taken steps to rigorously inventory the Greater Chaco Landscape for TCPs and sacred sites, in consultation with the pueblos. BLM alludes to "nearly 500 TCPs in the BLM-managed portion of the planning area that are significant to Tribe for various reasons. . . ." Draft EIS at AE-122. However, the Draft EIS does not indicate whether those TCPs were identified through consultation with tribal communities outside of the Navajo Nation. It is essential that BLM do so during this planning process and prior to arriving at a final decision on the RMPA. Over the past few years, APCG and other tribal governments have identified specific locations within the Greater Chaco Landscape, "including, but not limited to, the Great North Road, the West road, and Pierre's Site," as TCPs. Resolution No. APCG 2015-17; *see also* Letter from Leigh J. Kuwanwisiwma, Director, Hopi Cultural Preservation Office, to Gary Torres, Field Manager, BLM 1 (Mar. 7, 2014) (identifying Chaco Culture NHP as "a Traditional Cultural Property of the Hopi Tribe," along with other "archaeological sites of our ancestors"). BLM must work to document and account for those sites, along with other TCPs and sacred sites that surely exist in the planning area.

The Pueblo of Acoma's recent, limited ethnographic study (with Archaeology Southwest) reveals the wealth of data that will be made available when the required ethnographic-cultural studies are completed. With just a week of fieldwork, the Acoma team identified dozens of TCPs and other cultural sites that were previously unknown. *See* Acoma Greater Chaco Project (excerpt). These findings again underscore the serious deficiencies in both the extant Agency datasets with regards to TCPs from Tribes other than the Navajo Nation and the inadequacy of the current approach to Section 106 fieldwork. The Acoma Projects reveals that the archaeology-focused approach is simply

failing to identify many TCPs and cultural sites on the landscape. Thus, the Agencies are not fulfilling their obligations under both the NHPA and NEPA.

BLM must heed the lessons of *Pueblo of Sandia*. There, the U.S. Forest Service knew in advance of initiating consultation that a pueblo had identified a specific location as "an area of great religious and traditional importance. . . ." *Pueblo of Sandia*, 50 F.3d at 860 (internal quotations omitted). Further, the pueblo had, in the past, asked the U.S. Forest Service to manage the area in a manner "it believed would be most likely to permit Sandia members to perform secret, traditional activities in more seclusion." *Id*. (internal quotations omitted). BLM now finds itself in the same position. APCG and other tribal governments have identified specific TCPs within the Greater Chaco Landscape and have also indicated that others exist. Accordingly, BLM must now engage the pueblos in good faith consultation concerning the identification and evaluation of TCPs, including, but not limited to, the Great North Road.

2. BLM has not taken a "hard look" at the impacts of oil and gas leasing and development on the Greater Chaco Landscape.

BLM has failed to take a "hard look" at the direct, indirect, and cumulative impacts of past, present, and future oil and gas development on the Greater Chaco Landscape. BLM has neither made a "reasoned evaluation of available information" nor done "a careful job at fact gathering and otherwise supporting its position." *Biodiversity Conservation All.*, 762 F.3d at 1086. Accordingly, BLM must conduct a more rigorous analysis of potential impacts on the Greater Chaco Landscape, based on adequate baseline information about the current condition of cultural resources in the area.

a. BLM has not satisfactorily evaluated the direct and indirect impacts of oil and gas development on the Greater Chaco Landscape.

BLM has not taken a "hard look" at the direct and indirect impacts of the proposed alternatives on Chacoan roads and outliers, TCPs and sacred sites, and other significant cultural features in the Greater Chaco Landscape. This failure is a direct outgrowth of the inadequate baseline information presented in the Draft EIS. Since BLM has not "done a thorough analysis of the actual rate of change" for cultural resources in the Greater Chaco Landscape, then it's impossible for the agency to make a "reasoned evaluation" of potential impacts on those resources from future leasing and development. Draft EIS at 3-119.

It is well-documented that prior and ongoing oil and gas development has directly and indirectly affected cultural resources in the Greater Chaco Landscape. *See, e.g.,* Letter from Milford Wayne Donaldson, Chairman, ACHP, to David Bernhardt, Secretary of the Interior 1 (June 10, 2019) ("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."). "Direct" impacts include the construction and use of oil and gas access roads and pipelines that transect or occupy Chacoan roads. *See, e.g.*, Letter from David J. Mankiewicz, Assistant Facility Manager, BLM, to Leigh J. Kuwanwisiwma, Director, Hopi Cultural Preservation Office 2 (Dec. 23, 2009) (discussing "significant" access issues with proposed oil and gas leases that could "intrude" upon the Great North Road); Van Dyke et al. at 50 ("Sadly, energy development in the 20th century has destroyed virtually any traces of the North Road between Kutz Canyon and Aztec.").

This also includes auditory and visual impacts on cultural resources in the Greater Chaco Landscape. Significant sites, such as Pierre's and segments of the Great North Road, are now surrounded by oil and gas pumpjacks, tanks, and periodic drill rigs. Portions of the Greater Chaco Landscape are now "an industrial park" where "there have been significant impacts to the viewscape and the soundscape." Ruth Van Dyke at al., Chaco Landscapes: Data, Theory, and Management 14 (Feb. 25, 2016). Further, in the past, BLM has determined that lease parcels "nearly 20 miles away from [Chaco Culture NHP]" are visible from key observation points within the park. BLM, January 2014 Competitive Oil and Gas Lease Sale EA 28.

Yet, the Draft EIS discusses these types of impacts categorically and in inadequately general terms:

> Any future activities that would disturb the surface could have direct and indirect impacts on historic properties or CIMPPs. Examples of these are damaging, destroying, or displacing artifacts and features and constructing infrastructure out of character with setting, feeling or association. Damaging, displacing, or destroying historic properties could include obliterating artifacts, breaking or removing them from their context, or excavating features without appropriate scientific recording. Additionally, future activities that disturb the surface could have an impact on the physical integrity of these resources.
>
> Indirect impacts on historic properties or CIMPPs could include those that change the character of a property's use or physical features in its setting, feeling, or association that contribute to its historic integrity; an example of this is isolating the property from its setting

Draft EIS at EC-42. These are the very sort of "[g]eneral statements about 'possible' effects and 'some risk' [that] do not constitute a 'hard look'" under NEPA. *Neighbors of Cuddy Mt. v. United States Forest Serv.*, 137 F.3d 1372, 1380 (9th Cir. 1998). Instead, BLM must obtain additional baseline information about the current condition of significant cultural resources in the Greater Chaco Landscape. Once it has done so, then it must provide a detailed, "reasonable evaluation" of potential direct and indirect impacts from future oil and gas development, as required by NEPA.

Notably, the landscape immediately north of Chaco Culture NHP has not experienced the same level of oil and gas development as surrounding areas. The Great North Road runs through this landscape, which also serves as the viewshed for several mesa-top sites within Chaco Culture NHP, including Pueblo Alto and New Alto. According to NPS,

> the ancient road alignments were first discovered in this area north of the park because the terrain is relatively intact with limited modern intrusions. This landscape is not pristine or untrammeled, 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.

Letter from Lawrence T. Turk, Superintendent, NPS, to Lindsay Eoff, Project Manager, BLM 3 (May 29, 2013). Thus, it is particularly important that BLM take a "hard look" at potential impacts in this sensitive area immediately north of Chaco Culture NHP, which it has failed to do in the Draft EIS.

b. BLM has not evaluated the cumulative impacts of oil and gas development on the Greater Chaco Landscape.

BLM has not adequately evaluated the cumulative impacts of past, present, and future oil and gas development on cultural resources in the Greater Chaco Landscape. In order to satisfy this requirement, BLM must account for "reasonably foreseeable" projects. 40 C.F.R. § 1508.7; *Wildearth Guardians v. United States BLM*, 2020 U.S. Dist. LEXIS 77409, at *25-26 (D. Mont. May 1, 2020); *Dine Citizens Against Ruining Our Env't v. Bernhardt*, 923 F.3d 831, 853 (10th Cir. 2019).

As noted above, BLM has not evaluated and disclosed the cumulative impacts of past and present oil and gas development on significant cultural resources in the Greater Chaco Landscape. For example, as documented in a recent study at Pierre's Site, there are

> [n]o 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.

Ruth Van Dyke at al., Chaco Landscapes: Data, Theory, and Management 14-15 (Feb. 25, 2016). Further, "energy development in the 20th century has destroyed virtually any traces of the North Road between Kutz Canyon and Aztec." Van Dyke et al. at 50. Prior oil and gas development has also damaged the Great North Road south of Kutz Canyon, as there are numerous oil and gas access roads that transect the Great North Road just north of Pierre's Site (and elsewhere), in addition to well pads that are located if not directly on the Great North Road, then certainly within a few hundred feet. Map, Oil & Gas Wells/Roads in Vicinity of Pierre's Site/Great North Road. The existing road network, in particular, has likely had significant cumulative impacts on Chacoan roads and other cultural features in the Greater Chaco Landscape. According to BLM,

> [t]here are an estimated 15,000 miles of roadway in the planning area, 13,000 miles of which are in San Juan County. Most of these roads are unpaved. In San Juan County about 650 miles are county roads, 400 miles of which are unpaved (Keck 2001). Most of the road network consists of unpaved roads providing access to resources on federal lands, predominantly oil and gas facilities. In areas with a high level of oil and gas development, there is a dense network of roads, estimated at approximately four miles per square mile in the FFO area. Other parts of the planning area have road densities as low as one mile per square mile.

BLM, Assessment of the Management Situation 2-122 (Mar. 2015). Yet, in the Draft EIS, BLM does not acknowledge or attempt to analyze these past and ongoing impacts.

Further, BLM has not evaluated the cumulative impacts of recently approved and proposed oil and gas projects in the Greater Chaco Landscape. Starting on January 1, 2015, BLM approved at least 23 drilling projects that are entirely or partially within ten miles of Chaco Culture NHP, which authorize. Summary of Approved & Pending Drilling Projects Inside of 10-Mile Buffer Zone. These projects authorize over 200 new wells and over 700 acres of new surface disturbance. *Id*. Additionally, BLM is currently evaluating three proposed projects within ten miles of Chaco Culture NHP that, if approved, would authorize the drilling of 77 additional wells, along with the construction of associated access roads and pipelines. In sum, BLM has failed to take a "hard look" at the cumulative impacts of past, present, and reasonably foreseeable future oil and gas development on the Greater Chaco Landscape.

c. BLM has not evaluated the potential impacts of proposed waivers, exceptions, and modifications to no-surface occupancy stipulations.

BLM has a documented history of waiving and relaxing lease stipulations that are adopted to protect cultural and natural resources from the impacts of oil and gas development. Yet, the Draft EIS does not envision or evaluate the impacts of this foreseeable scenario. As a consequence, BLM has not taken the required "hard look" at the impacts of failing to enforce no-surface occupancy (NSO) stipulations on the Greater Chaco Landscape.

In the Draft EIS, BLM leans heavily on NSO stipulations as a mechanism to avoid or minimize the impacts of development on cultural resources in the Greater Chaco Landscape. For example, under the preferred alternative, NSO stipulations would apply to between 133,900 and 295,800 acres of federal lands and minerals. Draft EIS at 2-33-34. Many of these stipulations are proposed specifically to protect Chaco Culture NHP, Chacoan roads and outliers, and other significant cultural features in the Greater Chaco Landscape from the impacts of drilling. *Id*. Yet, BLM is proposing to permit waivers and/or exceptions to most, if not all, of these NSO stipulations. *Id.* at D-5 to D-23. These waivers and exceptions would undermine the protections afforded by the NSO stipulations, as well as the impacts analysis within the Draft EIS. *See, e.g.*, *id.* at 3-123 ("As compared with the BLM No Action Alternative, these fluid mineral leasing closures or stipulations under BLM Alternative A (particularly the NSO stipulations) would result in less potential for physical impacts on historic properties and CIMPPs, and they would reduce the potential visual, auditory, and vibratory impacts that could diminish aspects of historical integrity, such as setting or feeling.").

BLM's practice of authorizing waivers and exceptions to oil and gas lease stipulations is well-documented. In 2017, the Government Accountability Office (GAO) issued a report on BLM's ability to "assess and mitigate environmental impacts" from oil and gas development. GAO, Improved Collection and Use of Data Could Enhance BLM's Ability to Assess and Mitigate Environmental Impacts (Apr. 2017). As part of this report, GAO examined BLM's methods for evaluating and authorizing "waivers, exceptions, and modifications" to oil and gas lease stipulations and permit requirements. GAO, which relied on information from six field offices, including Farmington, found that waivers and exceptions are being granted, although to what extent is unknown because "BLM does not require that its field offices make the results of exception decisions available to the public." *Id*. at 21. Further, "BLM officials stated that they have generally not involved the public when considering operator requests for exceptions to lease and permit requirements." *Id.* at 20. As GAO concluded, "[w]ithout access to information on how often exception requests are made and approved and the reasons for the decisions, the public may not have the information necessary to provide substantive input into BLM's land use planning process." *Id*. at 21.

Yet, this is the very information that BLM has failed to provide in the Draft EIS. There is no information on the extent to which BLM has approved waivers, exceptions, and modifications in the Farmington Field Office in the past or its process for doing so. Nor did BLM recognize or attempt to forecast, based on past practice, whether companies are likely to seek waivers or exceptions in the future and what resources are most likely to be affected (e.g., cultural, wildlife, water, air). For example, BLM did not discuss whether companies are seeking and obtaining waivers and exceptions primarily for wildlife timing limitations or whether other kinds of stipulations are involved. Moreover, BLM did not identify where it has authorized waivers and exceptions in the past and whether those are concentrated in one place or another. In short, BLM provided none of

the information that would allow the agency and the public to take a hard look at the impacts and utility of the waivers and exceptions proposed in the Draft EIS.

Additionally, as typically implemented by BLM, NSO stipulations are clearly not as effective at protecting priceless cultural resources as a no-leasing designation. As described in Appendix D, Section D.1.2:

> NSO areas are open to fluid mineral leasing, but surface occupancy or surface-disturbing activities associated with fluid mineral leasing cannot be conducted on the surface of the land. Access to leased fluid mineral deposits would require directional or horizontal drilling or drilling from outside the boundaries of the NSO area. This differs from areas identified as closed to leasing (NL) in which neither the surface area nor mineral estate is available for fluid mineral leasing. (emphasis added)

Current generation horizontal drilling techniques can reach lengths of over 3 miles (18,000+ feet) for lateral wells. (See Journal of Petroleum Technology, 08 August 2018, Drilling for Miles in the Marcellus; Laterals Reach New Lengths). Environmental issues that are specifically related to hydraulic fracturing include: water availability; spills of chemicals at the surface; impacts of sand mining for use in the hydraulic fracturing process; surface water quality degradation from waste fluid disposal; groundwater quality degradation; and induced seismicity from the injection of waste fluids into deep disposal wells.[10] In other words, horizontal drilling and hydraulic fracturing are not impact-free and an NSO is not as effective at protecting nearby cultural sites as an NL s designation.

3. The Draft EIS lacks a reasonable range of alternatives.

The Draft EIS lacks a reasonable range of alternatives for managing and addressing the impacts of oil and gas development within the Greater Chaco Landscape. Importantly, the adequacy of an EIS's range of alternatives is governed by a qualitative, not quantitative, standard. *Prairie Band Pottawatomie Nation v. Federal Housing Auth.*, 684 F.3d 1002, 1012 (10th Cir. 2012). The sole inquiry is whether the range of alternative is "reasonable," as measured against an agency's statutory mandate and goals for a project. *N.M. ex rel. Richardson*, 565 F.3d at 708-09. Thus, the fact that the Draft EIS includes eleven alternatives/sub-alternatives, including eight with tailored management for the Greater Chaco Landscape, is irrelevant. When judged against the "reasonableness" standard, the Draft EIS's range of alternatives is inadequate.

However, we do want to recognize that BLM, and in particular its field staff, have begun to address the long-standing concerns of tribes, NPS, ACHP, and many others for oil and gas development in the Greater Chaco Landscape. It is evident that BLM has tried to respond to those concerns by crafting alternatives that would, to some extent, limit future oil and gas development in the Greater Chaco Landscape. The fact that BLM is considering these alternatives at all, given the historic focus on intensive oil and gas development in northwestern New Mexico, is commendable. Nevertheless, the Draft EIS fails to evaluate a reasonable range of options for managing and protecting cultural resources in the Greater Chaco Landscape.

[10] *See* https://www.usgs.gov/faqs/what-environmental-issues-are-associated-hydraulic-fracturing?qt-news_science_products=0#qt-news_science_products.

a. The Draft EIS does not evaluate adequate alternatives for managing and limiting the impacts of valid existing rights on the Greater Chaco Landscape.

None of the Draft EIS's alternatives include a comprehensive strategy for addressing the impacts of valid existing rights, including undeveloped oil and gas leases. As noted above, ongoing development continues to have significant impacts on Pierre's Site, the Great North Road, and other cultural features in the Greater Chaco Landscape. Further development on existing leases is foreseeable, given the presence of undeveloped leases throughout the Greater Chaco Landscape, along with recent project approvals.

Even though BLM received comments during the scoping period on the need to address the impacts of existing development, which included specific recommendations on how the management of valid existing rights could be enhanced, the Draft EIS instead focuses almost entirely on managing future oil and gas leasing. For example, Archaeology Southwest, Friends of Cedar Mesa, the National Parks Conservation Association, and The Wilderness Society identified a suite of measures that BLM should have evaluated in the Draft EIS, including:

- Requiring operators to prepare viewshed and soundscape analyses in advance of drilling projects within and near sensitive areas;
- Prioritizing drilling projects that would avoid or limit impacts on sensitive areas; and
- Prioritizing reclamation and restoration activities in Pierre's Site, the Great North Road, and other areas where past or ongoing development has directly or indirectly affected cultural resources.

Letter from Archaeology Southwest et al., to BLM 6-9 (Feb. 20, 2017).

Yet, BLM ignored these recommendations in the Draft EIS and instead included the same basic set of measures to address the impacts of valid existing rights in each of the action alternatives. *See, e.g.*, Draft EIS at 2-29 ("Companies applying for permits to drill may be required to evaluate a phased development plan, liquid gathering systems, off-site facilities, the use of new technology, such as directional and horizontal drilling from existing pads and other techniques to reduce surface disturbance with its consequent impacts on cultural, recreation, lands managed to protect wilderness characteristics, soil, water, vegetation, wildlife, special status species, and air resources."). Most of these measures are discretionary and would not provide robust and enforceable mechanisms for addressing the impacts of valid existing rights on the Greater Chaco Landscape. Such a strategy is clearly consistent with BLM's statutory mandates under FLPMA, NEPA, and the NHPA, as well as with the Draft EIS's purpose and need. *See* Draft EIS at 1-2 ("The primary purpose of this planning action is to adapt to changing oil and gas development patterns in the Mancos/Gallup formations under BLM administration" and "the need for planning is established by BLM requirements and authority under" NEPA, FLPMA, and other federal laws."). Further, just five years ago, BLM recognized that its approach to mitigating the impacts of development was "vague" and "could be update [sic] or better defined." AMS at 2-114.

In sum, BLM is treating already-issued oil and gas leases and other valid existing rights as if they are sacrosanct and any ongoing or future impacts associated with the exercise of those rights as unavoidable. NEPA requires otherwise, and BLM must develop alternatives that include a robust and enforceable strategy to address the cumulative impacts of valid existing oil and gas rights on cultural resources in the Greater Chaco Landscape.

b. BLM must evaluate an "option value" or delay alternative.

BLM has also not evaluated a delay alternative where leasing and development would be paused pending the completion of ongoing and planned archaeological surveys and ethnographic studies, as well as to account for the historic decline in oil prices and its enormous impact on the oil and gas industry. The concept of delaying decisions in order to maximize benefits to the public is known as "option value." According to the New York University Institute for Policy Integrity,

> [o]ption value arises in situations that are characterized by two features: uncertainty and irreversibility. Uncertainty is present when the expected value to be derived from a given action may change, or when the costs and benefits associated with the action are subject to doubt. Irreversibility is present when the action cannot be undone, or when the action entails sunk costs that make the prospect of reversal highly improbable. Under these conditions, the passage of time will often reduce uncertainty about the expected value of the irreversible action, by revealing more precise details regarding its costs and benefits. Option value is present in a wide variety of settings. The concept is firmly established in economic literature. . . .

Jayni Hein et al., Look Before You Lease 3 (Jan. 2020). Option value applies in the context of BLM land use planning decisions by providing an analytical framework for determining whether and at what point to irretrievably commit resources to development. *Id*. at 14-16. For example, BLM could decide to only make lands with high development potential available for leasing so that remaining lands "would then be available for more beneficial uses, such as ecosystem conservation, carbon sink purposes, renewable energy development, watershed protection, and recreation." *Id*. at 14. BLM could also decide to indefinitely defer future leasing and development decisions, based on "[c]urrent and expected resource prices in the United States and global energy markets. . . ." *Id.* at 16.

Here, as discussed above, there are significant uncertainties about the current condition of cultural resources in the Greater Chaco Landscape. There are also ongoing efforts to fill that informational void, including "a cultural resources investigation to identify culturally and historically significant areas and sites in areas of high energy development potential within the Chaco Canyon region of the Southwest." Explanatory Statement, Further Consolidated Appropriations Act, 2020, Pub. L. No. 116-94, 133 Stat. 2534 Div. D-2 [hereinafter Explanatory Statement]. Congress authorized and appropriated $1 million to fund this investigation in the Further Consolidated Appropriations Act, 2020. Pub. L. No. 116-94, 133 Stat. 2534; *see also* Explanatory Statement at Div. D-2. Separately, the Pueblo of Acoma and Zuni Tribe are currently conducting ethnographic studies to document cultural ties to the Greater Chaco Landscape and identify specific locales that harbor traditional cultural values. These studies should be finished within the next few months. Finally, prior to the onset of federal and state stay-at-home restrictions related to COVID-19, Archaeology Southwest had planned to conduct a targeted survey of several Chacoan outliers in the Greater Chaco Landscape in order to document their current condition. Archaeology Southwest was able to get some fieldwork completed and a preliminary summary report prepared. *See* Paul F. Reed, An Archaeological Reconnaissance of Chaco's 10-Mile Zone of Protection (Sept. 2020). Additional data will be forthcoming.

Additionally, there is now unprecedented uncertainty surrounding the oil and gas industry. Over the past few months, historically low oil prices have forced oil and gas companies to slash exploration and production budgets and shut-in existing projects throughout the country and, in

particular, in New Mexico. For example, the number of drill rigs operating in New Mexico declined by about 61 percent from September 2019 to September 2020. Baker Hughes, North America Rig Count, Rigs By State -- Current and Historical (downloaded on Sept. 18, 2020). And, according to recent reports, activity in the San Juan Basin has all but ground to a halt:

> in the San Juan Basin, chronically depressed prices have kept output flat, at best. In fact, in late January, the wholesale price fell below $1.90 per Mcf, its lowest level since March 2016, thanks to a moderately warm winter, plus national gas storage levels that are 20% higher than this time last year, according to the U.S. Energy Information Administration.
>
> "Gas prices have gone from bad to worse," said George Sharpe, investment manager with Merrion Oil and Gas Corp. in Farmington. "It's hard to justify drilling anywhere at these prices."
>
> There are about 25,000 wells still operating on New Mexico's side of the San Juan, but about 80% are considered marginal wells that produce less than 90 Mcf per day, Sharpe said.
>
> There was a spurt of drilling activity from about 2012 to 2014 in the San Juan's Mancos shale formation, an oil-rich zone sandwiched in between the basin's dry natural gas reservoirs. For a short time, that raised hopes for a San Juan revival based mostly on oil rather than the basin's traditional gas production. But when oil prices crashed in late 2014, Mancos activity ground to a near halt.

Kevin Robinson-Avila, *NM gas production up significantly,* Alb. Journal (Feb. 10, 2020). This downward trajectory is not expected to change anytime soon. The Energy Information Administration (EIA) now predicts that oil prices will average just $39/barrel in 2020 and $45/barrel in 2021. EIA, Short-Term Energy Outlook (Sept. 9, 2020). This is well below the "breakeven price of between $50 and $55 per barrel" for shale oil. Natasha Turak, *Whiting Petroleum is just the 'first domino' to fall in US shale wipeout, strategist says*, CNBC (Apr. 2, 2020). "An April survey of energy producers by the Federal Reserve Bank of Kansas City found nearly 40% would be insolvent within a year if oil prices remained around $30 a barrel. U.S. crude prices closed under $14 a barrel on Wednesday." Jessica Resnick-Ault & David French, *Bankruptcy looms over U.S. energy industry, from oil fields to pipelines,* Reuters (Apr. 22, 2020). Rising bankruptcies will increase the risk of well abandonments, which cause a wide range of fiscal and environmental problems, particularly in places like the Farmington Field Office where 80 percent of wells are already marginal producers.

The recent economic downturn undermines fundamental assumptions upon which the Draft EIS is based. For instance, in the 2019 Farmington Reasonable Foreseeable Development Scenario (RFD) for Oil & Gas Activities, BLM "assume[d] that oil and natural gas prices will follow [EIA's 2017] projections (Annual Energy Outlook, 2017)." Draft EIS at App. I-2. Based on that assumption, the Draft EIS "projects estimated production amounts and activity levels through the 20-year planning period." Draft EIS at 3-3. BLM, in turn, employed these projections to develop the Draft EIS's range of alternatives and analyze potential impacts. *See id.* at 3-3 to 3-5.

However, basic assumptions underpinning the 2019 RFD are no longer valid. In fact, EIA is now predicting that oil prices will be 38% lower in 2021 than it did in its 2017 Annual Energy Outlook,

which BLM "assumed" would hold for the foreseeable future. EIA, Short-Term Energy Outlook. Further, it is possible, if not probable, that demand for new leases and drilling permits will decline sharply in the San Juan Basin, while existing operators in the San Juan Basin may become insolvent, giving rise to an increase in well abandonments. This now-foreseeable scenario could spawn a host of environmental and social issues that are not considered in the Draft EIS and that could have significant consequences for cultural and natural resources in the Greater Chaco Landscape. Given this uncertainty, it is imperative and, in fact, legally required that BLM develop and evaluate additional alternatives based on delaying future leasing and development decisions.

Notably, BLM has evaluated and adopted such alternatives in other planning areas. For example, in the White River Field Office's 2015 RMP Amendment for Oil & Gas Development, BLM chose to defer future leasing around Dinosaur National Monument because of uncertainty about the impacts of development on the monument:

> Leasing within the MLP would progress in phases to address resource values and concerns. Leasing would first occur in the southern portion of the MLP, where the oil and gas occurrence potential is rated medium to high. Leasing within sage-grouse habitat, areas of low oil and gas potential, or areas adjacent to Dinosaur National Monument would occur once the BLM has completed additional analysis and planning. Within sage-grouse habitat in the MLP, sage-grouse management would be emphasized and leasing would only occur after the BLM has issued the Record of Decision for the Northwest Colorado Greater Sage-Grouse RMPA (193,000 acres). In areas of the MLP that are outside of sage-grouse habitat, but are within either low oil and gas potential or adjacent to Dinosaur National Monument Headquarters *leasing would only occur after the BLM has completed a RMP Revision and determined whether or not leasing is appropriate given considerations such as the potential impacts to visual resources, night skies, and soundscapes* (25,300 acres).

BLM, White River Oil & Gas RMP Amendment 2-45 (Aug. 2015) (emphasis added).

In sum, option value is a "firmly established" methodology for evaluating and responding to uncertainty. There is presently significant uncertainty about the current condition of cultural resources in the Greater Chaco Landscape, given BLM's inability or unwillingness to obtain adequate baseline information about those resources. Several studies are now moving forward in an attempt to document the condition of cultural resources in the Greater Chaco Landscape. Further, there is significant economic uncertainty that undermines the validity of the Draft EIS's development forecasts. Accordingly, an alternative (or alternatives) that accounts for these uncertainties by delaying leasing and development decisions is clearly reasonable and must be evaluated by BLM.

4. BLM must prepare a supplemental EIS.

Considering the recent downturn in the oil and gas industry and forthcoming information about the location, significance, and condition of cultural resources in the Greater Chaco Landscape, BLM must prepare a supplemental EIS. Under NEPA, BLM must supplement a Draft EIS "if . . . there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § 1502.9(c)(1)(ii). "If there remains major Federal actio[n] to occur, and if the new information is sufficient to show that the remaining action will affec[t] the quality of the human environment in a significant manner or to a significant extent not

already considered, a supplemental EIS must be prepared." *Marsh v. Or. Natural Resources Council*, 490 U.S. 360, 374 (1989) (internal quotations omitted). Those criteria are clearly met here.

As documented above, significant new information has recently emerged about the financial condition of the oil and gas industry that touches on every aspect of this planning process. For instance, the Draft EIS does not envision or evaluate a scenario where oil and gas operators in the Farmington Field Office become insolvent or otherwise avoid fulfilling their reclamation responsibilities. In fact, BLM assumed that oil and gas operators "will be in compliance with . . . federal regulations, BLM policies, BIA policies, and other requirements." Draft EIS at EC-1. Nor does the current range of alternatives account for the industry downturn; in fact, each alternative assumes that leasing and development will continue completely independent of market conditions. Thus, BLM cannot say that an alternative that would curb leasing and development based on market considerations is "qualitatively" within the current range. *See Wyoming v. U.S. Dep't of Agric.*, 661 F.3d 1209, 1260 (10th Cir. 2011) (requiring a supplemental EIS when alternatives are proposed that are not "qualitatively within the spectrum of alternatives that were discussed in the [DEIS]").

Also as explained above, there are currently at least four ongoing cultural resource investigations and/or ethnographic studies specific to the Greater Chaco Landscape. Archaeology Southwest's study in the 10-mile zone has revealed significant site clusters and communities that are not protected beyond normal BLM and BIA Section 106 protocols. These findings and ongoing efforts will surely provide significant new information about the location and nature of TCPs and sacred sites in the Greater Landscape, as well as the current condition of those and other cultural features. BLM knows that "a thorough analysis of the actual rate of change" in the condition of cultural resources does not exist, and is also aware of repeated requests for higher quality baseline information about the condition of cultural resources in the Greater Chaco Landscape from other federal agencies, tribes, and archaeological experts. Now that efforts are moving forward to document the condition of cultural features in the Greater Chaco Landscape, BLM must wait until this information is available and then prepare a supplemental EIS. *See Public Emples. for Envtl. Responsibility v. Hopper*, 827 F.3d 1077, 1083 (D.C Cir. 2016) (ordering the Bureau of Ocean Energy Management to "supplement [a Draft EIS] with adequate geological surveys" prior to advancing a wind energy project).

C. BLM Has Not Complied with FLPMA.

1. Management alternatives that would permit further development in the Greater Chaco Landscape violate the multiple use management standard.

To comply with FLPMA's multiple use mandate, BLM must prioritize alternatives that prohibit future leasing and drilling throughout the Greater Chaco Landscape. As the Tenth Circuit has stated, "[i]t is past doubt that the principle of multiple use does not require BLM to prioritize development over other uses." *N.M. ex rel. Richardson*, 565 F.3d at 710. Yet, in spite of this clear explanation of what multiple use means, BLM still claims in the Draft EIS that it must "appl[y] the least restrictive management constraints" to oil and gas development in the Farmington Field Office. Draft EIS at 2-12. There is no such requirement in FLPMA or the Mineral Leasing Act, however. BLM must instead take affirmative steps to reduce the existing and future footprint of oil and gas development in the Greater Chaco Landscape to comply with FLPMA's multiple use mandate.

As documented in the Draft EIS, oil and gas development has been the predominant use in the Farmington Field Office for decades. 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." Draft EIS at 1. Industry has also drilled over 37,000 wells and built a 15,000-mile long network of access roads within the planning area. *Id*. at AE-92. And if nothing changes (i.e., under the no-action alternative), then oil and gas leasing could continue on 95 percent of the planning area. *Id*. at 3-121.

Intensive oil and gas development has profoundly damaged the physical integrity, context, and setting of cultural resources in the Greater Chaco Landscape. Development has "destroyed" portions of the Great North Road. Van Dyke et al. at 50. Significant cultural resources, like Pierre's Site, have "the feeling of an industrial park." 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 (Feb. 16, 2017). And "continued oil and gas development . . . has significant impacts on APCG members' cultural resources that lie within close proximity to Chaco Culture NHP as well as through the Greater Chaco Region." Letter from E. Paul Torres, Chairman, APCG, to State Director, BLM, at 3 (Feb. 20, 2019).

Yet, over the years, BLM has rejected calls from ACHP and NPS to rebalance its management of the Greater Chaco Landscape. ACHP has stated that:

> we understand that 94% of the lands managed by Farmington Field Office (FFO) are leased for oil and gas production. Therefore, removing some or even all of the remaining leases within the Chaco viewshed from sale would not render the resource program ineffective. . . . In summary, the ACHP believes that it is incumbent upon the BLM to not only take the full range of Chacoan sites into account . . ., but to also protect them from all future visual effects *to the maximum extent possible*.

Letter from Reid J. Nelson, Director, Office of Federal Agency Programs, ACHP, to Lindsay Eoff, Project Manager, BLM, at 2 (May 31, 2013) (emphasis added); *see also* Letter from Lawrence T. Turk, Superintendent, NPS, to Lindsay Eoff, Project Manager, BLM 3 (May 29, 2013) (raising "considerable concerns" for the impacts of leasing in the landscape surrounding Chaco Culture NHP and requesting a reevaluation of their managing through the current planning process).

Further, BLM has not upheld its legal duties under FLPMA and Section 110(a) of the NHPA to maintain a current inventory of cultural resources in the Greater Chaco Landscape. *See* 43 U.S.C. § 1711(a) ("The Secretary shall prepare and maintain on a continuing basis an inven-tory of all public lands and their resource and other values. . . . This inventory shall be kept current so as to reflect changes in conditions and to identify new and emerging resource and other values"); 54 U.S.C. § 306102(b)(1) (directing federal agencies to "ensure that . . . historic property under the jurisdiction or control of the agency is identified, evaluated, and nominated to the National Register"). BLM has instead authorized 1.8 million acres of oil and gas leases, thousands of wells, and thousands of miles of oil and gas access roads in the Greater Chaco Landscape without a reasonably thorough understanding of the location, significance, and condition of cultural resources in the area.

That is not to say that survey work has not been performed. In the Draft EIS, BLM notes that "more than 23,000 archaeological inventories had been conducted in the planning area." Draft EIS at AE-71. However, almost without exception, these inventories were carried out in conjunction with proposed oil and gas projects and in order to comply with Section 106 of the NHPA.

> Due to steady increases in oil and gas development on the FFO, over 600,000 acres have been surveyed for cultural resources, reflecting approximately 15 percent of the planning area. During these inventories, over 32,000 cultural resources were recorded, including many important components of the Chacoan system currently under study by the NPS and others. Private contractors with BLM permits perform most cultural resource inventories associated with development obligations under Section 106 of the NHPA.

Draft EIS at AE-71. By contrast, BLM has surveyed just "558 acres since 2010 related to Section 110 [of the NHPA]," which requires proactive cultural resources inventory and management efforts. 54 U.S.C. § 306102. None of the locations surveyed under Section 110 that BLM identifies in the Draft EIS are located anywhere near Chaco Culture NHP. *Id*. at AE-72.

Thus, over the years, the location of development projects with potential adverse effects has driven the identification of cultural resources in the Greater Chaco Landscape. As a consequence, existing cultural resources data "are geographically biased toward past project-oriented undertakings (i.e., where cultural resource surveys have taken place) and may not accurately predict where and how many resources may exist in unsurveyed areas." Draft EIS at EC-42. Simply put, the Greater Chaco Landscape has not been systematically surveyed for cultural resources, including TCPs and sacred sites, and there is still no "thorough analysis of the actual rate of change [in the condition of cultural resources]." Draft EIS at 3-119.

In sum, 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." *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"). 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 has an affirmative obligation to comply with its multiple use mandate by prioritizing conservation alternatives for the Greater Chaco Landscape.

2. BLM has not sufficiently explained why the preferred alternative is not consistent with New Mexico State Land Office Executive Order 2019-002 "to the maximum extent" possible.

BLM has failed to justify why the preferred alternative does not achieve "maximum consistency" with New Mexico State Land Office (SLO) Executive Order (EO) 2019-002, which withdraws state lands within the boundaries of the Chaco Cultural Heritage Area Protection Act of 2019 from oil and gas leasing. Under FLPMA, BLM must ensure that its land use plans are consistent "with State and local plans to the maximum extent" possible. 43 U.S.C. § 1712(c)(9). While this requirement does not require absolute consistency between federal and state/local land use plans, "it ensures that the States' interests . . . will not be ignored. . . ." *Cal. Coastal Comm'n v. Granite Rock Co.*, 480 U.S. 572, 596 (1987) (Powell, J., dissenting). Yet, in the Draft EIS, BLM has completely ignored SLO EO 2019-002 and failed to explain why achieving consistency with the EO is not possible.

On April 27, 2019, New Mexico State Land Commissioner Stephanie Garcia Richard issued SLO EO 2019-002. 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. . . ." SLO EO 2019-002. 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. . . ." *Id*. The moratorium "will enable the State Land Office to explore other land uses that are more consistent with the protection and preservation of the landscape. . . ." *Id*. Further, the moratorium "will provide an opportunity to consult with the New Mexico Congressional Delegation and United States Bureau of Land Management . . . concerning leasing restrictions and overall landscape practices in the region. . . ." *Id*.

However, the Draft EIS neither acknowledges the existence of the EO nor explains why it was not possible to make the preferred alternative consistent with the EO. Even under the most restrictive sub-alternative, which would close federal lands within four miles of Chaco Culture NHP to future leasing, the Draft EIS's preferred alternative is plainly inconsistent with the SLO EO 2019-002. While the EO imposes an absolute moratorium on the leasing of state trust lands for oil and gas drilling, the preferred alternative, by contrast, would allow oil and gas leasing on lands throughout the legislative withdrawal area, including on lands that border state trust lands, as well as on sensitive lands that are clearly of significant concern to the state.

Further, the state adopted the moratorium for the express purpose of enabling consultation with BLM and other stakeholders "concerning leasing restrictions and overall landscape practices in the region. . . ." Yet, by ignoring the EO entirely, BLM has undermined this goal of the EO. In sum, BLM has failed to uphold its responsibility to make the Draft EIS consistent with SLO EO 2019-002 to the "maximum extent" possible.

D. BLM Has Not Complied with the World Heritage Convention.

1. The United States' responsibilities under the World Heritage Convention and Operational Guidelines are not adequately described in the Draft EIS.

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."[11]

The Operational Guidelines for the Implementation of the World Heritage Convention outline the substantive obligations State Parties have to protect inscribed World Heritage Sites.[12] 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);
- 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

[11] *See* https://whc.unesco.org/archive/convention-en.pdf.
[12] See https://whc.unesco.org/en/guidelines/.

impact the Outstanding Universal Value, including the integrity and/or authenticity of the property (Article II.F, Clause 98);

- 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); and must also
- 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); and
- submit periodic reports for examination by the World Heritage Committee (Article V.B, Clause 204).

Recommendation: Supplement the EIS with specific reference to how each alternative under consideration would address threats to Chacoan Outliers, including those protected under existing ACECs, as well as others that remain vulnerable. If BLM/BIA elect to pursue an alternative which threatens to diminish the integrity of World Heritage Sites, include a plan for notification to the World Heritage Committee under Clause 169 of the Operational Guidelines.

2. The Chaco Culture 2013 Periodic Report indicated increasing harm to outliers not specifically addressed in the Draft EIS.

On its website, UNESCO notes increased threats to the overall integrity of Chaco Culture "from adjacent development (including associated utilities and roads), energy exploration, extraction, as well as transportation projects and proposals."[13]

UNESCO's observation is substantiated by the United States' last periodic report for Chaco Culture, prepared in 2013 by the National Park Service Office of International Affairs.[14] This report documented worrying trends such as increasing and widespread air pollution, increasing deliberate destruction of heritage, and increasing illegal activity. At the same time the report found an increasing trend of the use of the property for ritual, spiritual, religious and associative uses. As the report documented:

> Energy exploration and extraction, specifically oil and gas production currently threatens viewshed and the associated cultural landscape. Uncontrolled homesite lease development and associated infrastructure on adjoining lands also impacts the cultural landscape and viewshed. The property is currently protected by its remote setting and lack of roads but these developments expose the boundaries to unauthorized access and increased vandalism.

The report further explained: "If energy exploration and extraction, uncontrolled infrastructure development or other external threats increase, adjacent landowners and managers may recommend a buffer zone that surrounds the property as a method for addressing cumulative impacts."

These observations have been supplemented with data that suggests oil and gas leasing in the vicinity of Outliers is diminishing their integrity. In 2017, Dr. Ruth Van Dyke profiled impacts to Pierre's site. The author noted that a pumpjack, Dugan Production Corp Hoss Com #95, was located

[13] *See* https://whc.unesco.org/en/list/353.
[14] *See* https://whc.unesco.org/en/list/353/documents/)

just outside the Pierre's community only 650 m southwest of the butte. She reported that the noise of this machinery is audible within the outlier community.

Recommendation*:* Supplement the EIS with specific information as to how each alternative under consideration would address threats to Outliers, including those protected under existing ACECs as well as others that remain vulnerable. BLM should also inquire with the NPS about the state of the next periodic report and ensure that data included in the adopted management alternative is provided to the UNESCO World Heritage Centre in a timely manner.

3. NSO stipulations are insufficient for preventing harm to Chaco Culture National Historical Park and the Chacoan outliers of Pueblo Pintado and Kin Bineola.

We are very concerned that the NSO stipulations around CCNHP and the Chacoan outliers of Pueblo Pintado and Kin Bineola proposed in Alternative C (BLM's preferred alternative) are insufficient to prevent harm to the resources and values within these important cultural sites. Alternative C would establish NSO stipulations of as little as 0-2 miles to as much as 0-10 miles around the respective site boundaries. As discussed previously, the proposed NSO stipulations offer incomplete protection as exploiting subsurface minerals through horizontal drilling and hydraulic fracturing

Further, as explained previously, the Draft RMPA/EIS would allow companies to obtain waivers and exceptions to the NSO stipulations for any or all of these lease parcels. Such an approach would conflict with conservation of CCNHP's resources and values under the NPS Organic Act, and would clearly not fulfill BLM's obligation to provide "adequate long-term legislative, regulatory, institutional and/or traditional protection and management to ensure the safeguarding of World Heritage Sites." UNESCO, Operational Guidelines for the Implementation of the *World Heritage Convention* 29 (July 2019). Thus, subsurface development in the immediate vicinity of CCNHP and the Chacoan outliers of Pueblo Pintado and Kin Bineola has the potential to cause harmful impacts to sites' integrity and threats to their viewshed and soundscape.

By proposing these NSOs rather than more protective measures in its Preferred Alternative, BLM is making a conscious decision not to prioritize the protection of cultural resources over fluid mineral leasing in these boundary areas. Such a decision, in effect, would institutionalize uncertainty and elevate controversy regarding the adequacy of future protection of these important cultural sites for the life of the plan.

In stark contrast to BLM's preference for NSO stipulations, there is strong support among the conservation and historic preservation communities, as well as from NPS and affected Tribes, for the establishment of a 10-mile no leasing restriction zone around these sites, as described in BLM Alternative B1. Similarly, there has been growing concern in the halls of Congress regarding BLM's current and future leasing activities in this area, as demonstrated by the House of Representatives passing the Chaco Cultural Heritage Area Protection Act of 2019 (H.R. 2181).

We urge BLM to incorporate the 10-mile no leasing restriction zone, along with Alternative B1's 3-mile restriction zone around designated Chacoan roads, into its Preferred Alternative. Doing so would be the most practical and effective manner for BLM to ensure adequate preservation of the affected cultural sites into the future. While this seems like a common sense approach to us, in describing its preference for NSO stipulations, BLM has failed to adequately explain or justify its preference for NSO stipulations or how that would protect cultural resources as effectively as the recommended 10-mile NL restriction zone.

4. NSO stipulations are insufficient for preventing harm to other outlier sites.

The surface resources at the Outliers at Chaco Culture have some protections as ACECs. Yet the proposed stipulations offer incomplete protection as exploiting subsurface minerals through directional or horizontal drilling beneath the Outliers creates unique vulnerabilities. The RMPA recognizes that "nothing in current legislation or the RMP precludes oil and gas development adjacent to these ACEC." *See* Draft RMPA at 3-118. Further, as explained above, the Draft RMPA/EIS would allow companies to obtain waivers and exceptions to the NSO stipulations that would apply to Chaco outliers. Such an approach would not fulfill BLM's obligation to provide "adequate long-term legislative, regulatory, institutional and/or traditional protection and management to ensure the safeguarding of World Heritage Sites." UNESCO, Operational Guidelines for the Implementation of the *World Heritage Convention* 29 (July 2019). Thus, subsurface development in the vicinity of Outliers has the potential to cause harmful impacts to site integrity and threats to their viewshed and soundscape.

Recommendation: In a supplemental EIS the BLM should re-evaluate plans to allow for the extraction of subsurface minerals at Outlier sites. Even if subsurface minerals are obtained through horizontal or directional drilling, industrial operations near the sites can cause harmful impacts and reduce their site integrity which would be inconsistent with the United States' commitments under the World Heritage Convention.

5. BLM's approach to managing formal Chacoan outliers and candidate outlier sites is inconsistent leading to a confused analysis of how BLM intends to honor its obligations under the World Heritage Convention.

Since the 1995 determination by Congress that the Chaco Culture World Heritage Site consists of 39 distinct Outliers (aka "Chaco Protection Sites"), new research has revealed more substantial connections across the Greater Chaco Landscape. As a result, many sites within the jurisdiction of the FFO and the planning area deserve increased scrutiny in this long-range planning effort.

BLM appears to acknowledge this new substantive knowledge in utilizing the term "outlier" to describe multiple significant sites on the Chaco landscape not listed in the 1995 legislation (see AE-70 and Figure AE-15 including Jackson Lake, La Plata, Holmes Group, Sterling, Point Pueblo, Casa del Rio, Mesa Tierra, Casa Escondida, Casa Patricio, Tse Lichii, Raton Well, and Reservoir Ruin). However, it is very unclear to the reader how BLM distinguishes among sites and for what reasons. Yet this information is highly relevant for providing the public an informed view of how BLM honors its commitment to the World Heritage Site. More information in the EIS is necessary to help the public ascertain why management approaches differ among formally designated Outliers as well as related sites that have been acknowledged as having considerable importance.

The lack of detail with respect to Outliers is particularly problematic as they are not consistently managed under the current RMP. For instance, the 2003 RMP lists the "Jacques Chacoan Community" -- presumably the Outlier described as "Jaquez" in the 1995 legislation -- as protected only through NSO stipulations and not "Discretionary Closure" as the others. Further, The Hogback, another Outlier in the 1995 legislation, is protected in the RMP only as a site that hosts endangered species and not for its cultural associations.

Recommendation: The RMPA provides BLM an opportunity to provide for a more coordinated approach to managing both formally designated Outliers and candidate outliers, including the ancient road system. Establishing a single ACEC collective of outlier sites – those designated and candidates for designation – would provide more assurance of that BLM takes seriously its responsibilities for World Heritage.

6. The Draft EIS fails to disclose the important role and responsibilities of UNESCO's Interagency Management Group.

On its website for Chaco Culture, UNESCO notes that U.S. law has tasked an Interagency Management Group (established by federal law) that "represents all federal, state, tribal, and local governments managing the property's components. This group assures consistent and coordinated management through review of management decisions, sharing of technical expertise, and assistance with necessary legislation."[15] Presumably, this is the interagency management group established by Public Law 96-550, which created the Chaco Culture Archaeological Protection Sites System and directed BLM, NPS, and BLM to develop a "joint management plan for the identification, research, and protection of the archaeological protection sites. . . ."

Yet, the EIS notably omits mention of this group as a resource to ensure a consistent federal management approach for the Chaco Culture World Heritage Site.

Recommendation: Revise the EIS to describe BLM's and BIA's existing commitments to participating in the legally mandated Interagency Management Group and attach the respective commitment documents as appendices to the Draft RMPA/EIS.

IV. COMMUNITY AND HEALTH IMPACTS

This planning effort can and should be an example of putting the commitments the agency has outlined in its scoping report into action for the benefit of all stakeholders and the greater Chaco landscape. The planning process should also recognize, and provide outreach to and fully address the important concerns and perspectives of Navajo and all affiliated Pueblo tribes, including those identified in resolutions adopted by the All Pueblo Council of Governors, tribal members living around Chaco Culture NHP, and Navajo chapters. For example, evaluating and addressing the impacts to the health and economic welfare of surrounding communities can and should be an integral part of this planning process. It will also be important for the agencies to incorporate into this planning process a clear commitment and framework for ongoing coordination and consultation with pueblos, tribes and local residents over future oil and gas activity in the greater Chaco landscape.

The risks of adverse impacts to cultural, social, economic, and environmental resources are especially significant in the Farmington Field Office. The BLM is responsible for the management of public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based on "multiple use" principles—a combination of uses that account for the long-term needs of future generations for renewable and nonrenewable resources. Among these resources is public health and safety. Local residents, tribal members and allottees have all 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. High levels of unemployment among tribal members offer opportunities to develop

[15] *See* https://whc.unesco.org/en/list/353.

partnerships providing for job training and local hiring initiatives in a range of vocations. Additionally, resources within Chaco Culture NHP, and its web of connected sites, are of deep spiritual and cultural significance to local and Pueblo tribes.

The agency's scoping report committed the BLM to developing an RMPA which would address climate change, water and soil resources, environmental justice, the "Chaco Cultural Landscape", public health and safety, Tribal interest and trust responsibilities, truck traffic and road conditions, wildlife, and other issues impacted by oil and gas drilling. Farmington Mancos-Gallup Resource Management Plan Amendment S-5 and Environmental Impact Statement Scoping Report, Issue Summary, S-5 – S-6.

The impact that the BLM's preferred Alternative C would have on each of these environmental, cultural, and social values demonstrates that the BLM, if they were to adopt Alternative C, would fail to fulfill its regulatory obligation and break its promise. Just acknowledging environmental justice impacts as concepts and not reflected in the RMPA regulatory framework is not enough. In section 3.7.3 of the Draft RMPA/EIS, BLM defines environmental justice as need for "fair treatment and meaningful involvement of people of all races, cultures, and incomes, with respect to the development, implementation, and enforcement of environmental laws, regulations, programs, and policies." *See* Draft RMPA at 3-218. It identifies the demographic makeup in the planning area of low-income, minority, and Native American populations, and cites meetings held to achieve tribal consultation in Chapter 4, Consultation and Coordination – yet, nowhere is the cumulative impact of industrialized oil and gas drilling on health taken into account, even after a public input process and lengthy process of developing the RMPA. The BLM must include prescribed ways in which it will mitigate human health impacts from any and all future oil and gas development, as well as concerns presented by the communities in health impact assessments performed in response to the acceleration in oil and gas development and communities' observance of how development has impacted human health and ecological resilience.

A 2017 citizen science report chronicled local complaints of nausea, burning eyes, respiratory problems, recurring headaches — all of which, studies have shown, can be caused by chemicals released during the extraction, processing and transport of oil and gas. Health Impact Reports Summary Oil & Gas Well Exposure 2015 – 2017 Counselor Chapter New Mexico.

While BLM's Preferred Alternative C claims that "human health and the environment" are among its priorities, this Alternative proposes 3,068-3,085 new wells in the planning area, only 16-33 fewer wells than proposed in the "maximum development" scenario—Alternative D—which would contribute to the further degradation of air and water quality, noise and viewshed resources, and potentially cause damage to the many as-yet unknown archaeological sites located in the planning area surrounding CCNHP.

BLM admits its proposed oil and gas plan will exceed safe public health and air quality limits for all development scenarios, yet offer no plans to mitigate those risks posed by oil and gas drilling. *See* Draft RMPA at ES-7.1.

A. Government-to-Government Consultation On Energy Development

Residual impacts to tribal communities from expanded oil and gas development can include distortions in labor markets, housing prices, public infrastructure and disruptions in social systems. This ongoing relationship should both monitor and implement outreach programs to help

communities adjust to changes. As described in BLM Handbook-1780-1, BLM and BIA already have an existing partnership and working group related to nearby coal development decisions:

> [R]epresentatives from the BLM Arizona State Office organize quarterly coal coordination meetings with the Hopi Tribe and the Navajo Nation. Representatives from the BIA and OSM attend as well. Participants discuss on a government-to-government basis coal-related mining and environmental issues involving the DOI's management of the Arizona and New Mexico coal mines located within the Hopi and Navajo reservations. (Id. at p. XIII-8.)

As another example, on the Wind River Indian Reservation in Wyoming, BLM, BIA and the Arapaho and Shoshone Tribes entered an MOU that, among other things, "formalize[d] a structure for future communications between the parties regarding environmental concerns arising from oil and gas operations."[16] Similarly, in the Socorro (New Mexico) RMP, BLM and the Zuni Pueblo agreed to enter into a MOU to outline consultation procedures for future actions that might affect the Zuni Salt Lake, an area of cultural significance to the Zuni. BLM Socorro RMP 7 (2010). A similar, formal partnership would make sense in the Farmington Field Office planning area, where future site-specific development approvals will frequently require consultation, coordination and outreach to tribes, allottees and the public.

The issue of access to this planning process by stakeholders most affected by the RMPA has been raised time and again by the Navajo Nation Council, APCG, the entire New Mexico Delegation, and multiple groups, individuals, and Pueblo governments. This RMPA is of interest to various stakeholders, including the Navajo Nation, the All-Pueblo Council of Governors, the New Mexico pueblos, and other communities in largely rural areas. As recently reported by the Albuquerque Journal, "less than half of households on tribal lands have access to fixed broadband service, representing a nearly 27% gap compared with non-tribal rural areas. In 2018, the [Federal Communications Commission] estimated 35% of Americans living on Tribal lands lacked access to broadband services, compared with 8% of all Americans." With such a dearth of reliable internet service among critical stakeholders, digital meetings are similarly not feasible at this time. The only way to ensure public engagement and a genuine process is to extend or suspend public comment periods affected by the COVID-19 pandemic until it is once again safe for in person meetings and the federal, state, and local authorities lift restrictions around public gatherings and social distancing to allow for in-person meetings.[17]

B. Recommendations for Populated Areas, Traditional Cultural Properties, and Sacred Sites

Landscape level planning in northwestern New Mexico is sorely needed. By expanding the planning area boundary to capture tribal and allotted lands, BLM and BIA have taken a critical step toward implementing a landscape-scale planning approach in the planning area. Without tribal and allotted lands in the decision space, comprehensive management and protection of the network of connected cultural and archaeological sites around Chaco Culture NHP would have been effectively impossible. Likewise, a plan with decisions for only federal public (but not tribal and allotted) lands and minerals would not be able to address the significant human health concerns of local residents.

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[16] *See* BLM Press Release, "Tribes, BIA and BLM Collaborate on Oil and Gas Operations" (Feb. 28, 2014) available at https://www.blm.gov/wy/st/en/info/news_room/2014/february/28lfo-mou.html

[17] Albuquerque Journal, *Bill would speed broadband access*, Feb. 22, 2020, available at https://www.abqjournal.com/1423573/bill-would-speed-broadband-access.html.

Now that tribal and allotted lands are included, BLM and BIA must aim to protect cultural resources and address environmental justice concerns at a landscape-level. Below, we identify distinct areas, each "characterized by a set of common management concerns," that BLM and BIA should manage under unique management prescriptions at a landscape-level:

a. Apply setbacks to protect occupied properties and areas, such as schools, houses, and community centers.
b. Impose strict air quality emissions standards and fugitive dust control plans.
c. Impose strict methane emissions standards to protect public health and livestock, as well as to avoid waste of natural gas.
d. Require closed loop drilling and other strict water quality protections.
e. Impose operator and agency-based air and water testing and monitoring requirements as well as strict agency-based inspection and enforcement requirements.
f. Impose a strict decibel-based limit to reduce noise near homes, residences, schools, and other occupied areas.
g. Limit flaring and artificial lighting.
h. Limit truck traffic.
i. Require unitization, communitization and master development plans across federal, tribal and allotted lands to co-locate infrastructure.

We also urge the BLM to adopt the ten-mile buffer zone in Sub-Alternative B1, as this option would prevent the most cumulative impacts on public health and safety in areas closed to fluid mineral leasing.

C. Environmental Justice and Cumulative Impacts of Oil and Gas Drilling on Public Health

Under BLM and BIA Alternatives B1 and A, air emissions are predicted to be second lowest of all alternatives; air emissions are predicted to be the least under BLM Sub-Alternative B2. *See* Draft RMPA at ES-4. Therefore, we urge the BLM to adopt the ten-mile buffer zone set forth in Sub-Alternative B1 in its final version of the RMPA. Because overall projected development would be the lowest under BLM Alternatives A and B (including BLM Sub-Alternatives B1 and B2), generalized risks to public health and safety from air emissions, noise, light pollution, and traffic would also decrease. Compared with the BLM No-Action Alternative, Sub-Alternatives B1 and B2 would result in only slightly reduced fugitive dust emissions, respectively reducing surface disturbance by 2% and 3%. BLM Sub-Alternative B1 generally would have a 25 percent reduction in air emissions from well development, compared with the BLM No Action Alternative, and Sub-Alternative B2 would result in an approximately 40 percent decrease in BLM-permitted well development (3-28). We urge BLM to adopt the ten-mile buffer zone set forth in Sub-Alternative B1 as it mostly incorporates the 10-mile protection zone that would be established by the Chaco Culture Heritage Area Protection Act. With that alternative we request that BLM incorporate strict fugitive dust control plans into its final planning document. Particulate matter has had an extremely detrimental impact on the public health of communities in the planning area.[18] San Juan County, in the 2020 State of the Air Report, received an F grade, despite being a largely rural county with low population density.[19]

[18] *See* https://nmpoliticalreport.com/2020/04/23/report-climate-change-oil-gas-emissions-a-bad-mix-for-new-mexico-air-quality/, https://nmpoliticalreport.com/2020/04/15/for-greater-chaco-communities-air-pollution-compounds-covid-19-threat/.
[19] *See* http://www.stateoftheair.org/city-rankings/states/new-mexico/san-juan.html.

The impact to public health from industrialized drilling and associated climate impacts cannot be understated, particularly with such a rampant acceleration in so short a 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. 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.[20]

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

[20] *See* https://www.psr.org/blog/resource/compendium-of-scientific-medical-and-media-findings-demonstrating-risks-and-harms-of-fracking/

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 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, 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 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.

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. Rasmussen, Sara G. et al., Association Between Unconventional Natural Gas Development in the Marcellus Shale and Asthma Exacerbations, 176 JAMA Internal Medicine 1334 (2016). These asthma-related impacts are of particular concern in the communities adjacent to the FFO. In San Juan and Rio Arriba Counties, child asthma hospitalizations exceed the New Mexico state average.[21] 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 (2017 Community Health Needs Assessment Report San Juan County, New Mexico) often due to geographic constraints but also for economic reasons. 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.[22]

The agencies should regularly conduct health impact assessments and develop measures to address those impacts: As the agency has acknowledged that each of the alternatives outlined in the Draft RMPA/EIS carries with it an increased adverse impact to public health, the agency should conduct community-based health impact assessments on a regular basis. Oil and gas development and

[21] 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.
[22] *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

resulting climate change impacts will result in 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. The drilling/ development and production project phases are the most likely times when these impacts can occur.

Once potential health impacts are evaluated, mitigation measures to limit health impacts can be imposed through lease stipulations, COAs and BMPs to limit impacts to air quality and groundwater quantity and quality. The agencies should develop an approach to mitigate impacts that adversely affect and cause a disproportionate effect on low-income populations and communities of color through appropriate measures. In addition, BLM and BIA can develop more extensive outreach campaigns to provide technical and environmental health information directly to groups disproportionately affected by environmental impacts, or to local agencies and representative groups. Included in these campaigns would be descriptions of existing air and groundwater monitoring programs; the nature, extent, and likelihood of existing and future airborne or groundwater releases from oil and gas facilities; and the likely characteristics of environmental and health impacts. Key information would include the extent of any likely impact on air quality, drinking water supplies, subsistence resources, and the relevant preventative measures that may be taken.

D. The Agencies Should Analyze Socio-Economic Impacts and Develop Measures to Mitigate Those Impacts.

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, including increases in crime, alcoholism, and drug use. The agencies can evaluate socioeconomic impacts and include those in evaluating the costs and benefits of approving ongoing leasing and development.

As part of their outreach to local communities, BLM and BIA can provide information on the scale and time line of expected oil and gas development, and on the experience of other communities that have followed the same energy development path to local governments and directly to low-income and indigenous populations, together with information on planning activities that may be initiated to provide local infrastructure, public services, education, and housing.

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.[23]

Oil and gas well fields can heighten and extend public costs. Measuring the socioeconomic impacts of industrialized energy development can validate community and local government requests for impact mitigation to offset the need for increased road maintenance and construction, housing, police work, or other costs created by energy development. As well, monitoring can inform adaptive

[23] *See* https://headwaterseconomics.org/energy/oil-gas/energy-monitoring-practices/.

management of the pace and scale of drilling activity to help minimize negative impacts while maximizing benefits.

Headwaters Economics recommends that the following five areas be monitored to more fully assess the impact of oil and gas development more fully 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.

The agencies can also work with operators to look at creative ways to mitigate impacts to local communities, such as through supporting community health screenings, especially those addressing potential health impacts related to the oil and gas industry, vocational training and other measures that can be shown to effectively mitigate harms related to oil and gas development.

We urge the agencies to adopt the ten-mile buffer zone set forth in sub-Alternative B1, and incorporate into their approach to future oil and gas development a thorough assessment of the health and socioeconomic impacts of the projected oil and gas development in the planning area and develop mitigation measures to address those impacts. Public outreach sufficient to fulfill NEPA requirements is acknowledged in the RMPA-EIS Section 4.2. This outreach must take into account relevant literature, including case studies of project impacts on other communities, when conducting outreach and education to the public. BIA can best comply with its obligations and exercise its authority by accounting for social, cultural and environmental resource impacts in management decisions for development on tribal and allotted minerals. BIA should consider a broad range of alternatives to address these types of impacts through this joint planning effort and capitalize on the opportunity to also address the impacts from leasing and development on lands and minerals managed by the BLM. Consideration of existing programs and initiatives through

BIA's Office of Indian Energy and Economic Development should be examined for its applicability to oil and gas development mitigation in the Chaco region.[24]

V. CLIMATE CHANGE

A. Climate Change Poses an Existential Threat to our Planet and Humanity, with Public Lands Playing a Key Role.

A large and growing body of scientific research demonstrates, with ever increasing confidence, that climate change is occurring and is caused by emissions of greenhouse gases (GHGs) from human activities, primarily the use of fossil fuels. In an area that is already seeing substantial effects of climate change in temperature and precipitation, it is vital for BLM to consider and analyze impacts of the agency action to the community and climate. These impacts can have differential adverse effects on low income populations or communities of color, creating environmental justice concerns that should be addressed in the plan and in any subsequent approved activities. Despite new data from the most reliable scientific sources, the Trump Administration's energy dominance policy continues to prioritize fossil fuel production and expanded drilling on Federal lands.

The Draft RMPA/EIS must fully acknowledge and address the role of fossil fuel development on public lands, particularly in the context of developing additional lands within the Farmington Field Office, with associated GHG emissions that are driving climate change. BLM must also account for the potential loss of carbon storage in its RMP decisions, including analysis of impacts to carbon sequestration in the planning area from additional development, lack of protection for special designations, and increased vegetation removal.

BLM must ensure that the Farmington RMP Amendment addresses the climate crisis by reducing leasing and development, including through availability decisions, net zero carbon budget stipulations, and other protections described throughout these comments. Doing so will necessarily require at a minimum a supplemental EIS and more properly a full RMP revision, rather than the more limited amendment being contemplated. We hereby incorporate by reference technical comments submitted by Environmental Defense Fund et al. for the Farmington Draft RMPA/EIS, submitted September 25, 2020. These incorporated technical comments (attached) add context to several of our points below, further outlining BLM's legal requirements to adequately consider climate change impacts throughout the ongoing Draft RMPA/EIS planning process.

B. BLM Must Fully Analyze the Impacts of Climate Change for this RMP Amendment Under the National Environmental Policy Act.

It is well established that federal agencies must analyze climate change when conducting land use planning. *See, e.g.*, *Wilderness Workshop v. Bureau of Land Mgmt.,* 342 F. Supp. 3d 1145, 1156 (D. Colo. 2018); *W. Org. of Res. Councils v. Bureau of Land Mgmt.,* 2018 U.S. Dist. LEXIS 49635 at 53-54 (D. Mont., Mar. 26, 2018).

BLM must, at a minimum, conduct NEPA analysis for this RMP amendment that includes the components listed below. As it stands, the Draft RMPA/EIS fails to meet these requirements.

[24] *See* https://teeic.indianaffairs.gov/er/oilgas/mitigation/justice/index.htm; https://teeic.indianaffairs.gov/er/oilgas/mitigation/socio/index.htm

- Fully analyze climate change impacts and mitigation opportunities. This analysis must include methane emissions, social cost of carbon, and loss of carbon sequestration, among other things.
- Quantify reasonably foreseeable GHG emissions, including end-use of fossil fuel extraction (downstream emissions) and associated direct, indirect, and cumulative climate impacts associated with those emissions.
- Develop alternatives that allow the public and the decisionmakers to compare the anticipated levels of GHG emissions, including alternatives that close all lands to leasing or only make limited lands available for leasing, as well as other alternatives that ensure a net zero carbon budget.
- Analyze options to avoid, minimize, and mitigate GHG emissions and energy development in the planning area (e.g., prioritize minimal development, but for where development does occur, do not open low-potential lands to leasing and assess the option value of delaying leasing).
- Establish a requirement for a lease notice to be attached to proposed leases to preserve BLM's ability to impose mitigation or offsets for climate change impacts at the application for permit to drill (APD) stage, or to delay/disapprove development.

1. BLM must fully analyze the direct, indirect and cumulative impacts of greenhouse gas emissions.

In analyzing the direct, indirect, and cumulative impacts required by NEPA, BLM must consider the full scope of development activities that are reasonably foreseeable under the RMP, including leasing, as well as all stages of exploration, development, and end use. BLM recognizes that obtaining an accurate picture of GHG emissions from oil and gas development requires a "full life-cycle" analysis, and that federal activities under the Draft RMPA/EIS can exacerbate impacts. *Id.* at 3-32. BLM also recognizes important aspects of the climate change problem, such as the impacts on rainfall, on wildfire severity and frequency, and impacts to wildlife species. *Id.* at 3-36. Yet BLM fails to conduct the legally-required analysis.

To meet the legal requirements pursuant to NEPA, the Draft RMPA/EIS must:

- **Accurately quantify GHG emissions and analyze climate impacts based on predicted emissions**.

  As it stands, the Draft RMPA/EIS fails to adequately quantify GHG emissions in the planning area and fails to adequately analyze climate impacts based on predicted emissions. BLM must consider unquantified effects and recognize the worldwide and long-range character of climate change impacts. *See* 42 U.S.C. §§ 4332(2)(B), (F), (H). BLM should also consider the global warming potential (GWP) of the GHG emissions (which accounts for the emissions' heat trapping effect and longevity in the atmosphere), and set an appropriate metric for analyzing GWP (a 20-year horizon recognizing a GWP of 36). *See W. Org. Res. Councils v. BLM,* 2018 U.S. Dist. LEXIS 49635 (D. Mont. Mar. 26, 2018). BLM made no attempt in the Draft RMPA/EIS to analyze the climate impacts associated with predicted emissions, including GWP. This analysis must be fully apparent in the alternatives considered in the EIS for this RMP amendment, as well as the baseline (affected environment) that is considered.

- **Analyze cumulative impacts of GHG emissions associated with oil and gas leasing and development under the RMP.**

The Draft RMPA/EIS does not include adequate analysis of how existing leasing and anticipated future leasing in the planning area contributes to significant environmental impacts. BLM must consider the reasonably foreseeable incremental and total contribution of GHG emissions from oil and gas development in the planning area when added to other relevant past, present and reasonably foreseeable GHG emissions from Federal and non-Federal sources. BLM must also consider the regional, national, and global connection to its development decisions. In general, the RMPA fails to provide quantified or detailed information about climate impacts specific to the planning area, thus failing to meet NEPA's "hard look" requirement.

2. BLM must consider the ecological, economic, and social Impacts of GHG emissions utilizing the best available science and information.

To ensure the scientific integrity of this NEPA analysis BLM should use peer-reviewed Social Cost of Carbon, Social Cost of Methane, and carbon budgeting analyses. 43 C.F.R. § 1502.24. A carbon budget sets a cap on the remaining GHG that can be emitted while keeping global average temperature rise below certain climatic thresholds (2°C or 1.5°C). Similar to tools like the Social Cost of Carbon and Social Cost of Methane, a carbon budget "disclose[s] the actual environmental effects" of the project in a way that "brings those effects to bear on [the agency's] decisions." *See Baltimore Gas & Electric Co. v. Natural Resources Defense Council*, 462 U.S. 87, 96 (1983). By declining to employ these measures the BLM is impermissibly zeroing out the costs of climate change.

3. Climate change impacts must be integrated into the environmental baseline and across alternatives.

Existing and reasonably foreseeable climate change impacts must be integrated into the environmental baseline and across alternatives, including the no action alternative, in order to facilitate the requisite hard look at impacts that NEPA requires. Excluding climate change effects from the environmental baseline would ignore the reality that the impacts of proposed actions must be evaluated based on the already deteriorating, climate-impacted-state of the resources, ecosystems, human communities, and structures that will be affected.

It is important for BLM to consider the "context" of climate change problems. This includes "society as whole (human, national), the affected region, the affected interests, and the locality." 40 C.F.R. § 1508.27(a). "Both short- and long-term effects are relevant." *Id.; see also* 42 U.S.C. § 4332(F). BLM must consider the local environment where RMP decisions will be implemented and produce effects, as well as regional, national, and global climate impacts. The Draft RMPA/EIS briefly mentions global, national, and state emissions in the affected environment section, but fails to make any connection between the extent of these emissions and impacts from the decisions in the Draft RMPA/EIS, aside from the recognition that "the trend in GHG emissions for the fossil fuel industry . . . in New Mexico may be indicative of the planning area." *See* Draft RMPA at 3-17. The Draft RMPA/EIS is especially deficient in its consideration of local climate change impacts as part of the context for this NEPA analysis. *See* 42 U.S.C. 4332(2)(C)(iv).

The Draft RMPA/EIS fails to acknowledge that these resources are vulnerable to climate impacts now and in the future. Additionally, the agency fails to connect the impact that continued oil and gas

development in the region will have on these and other resources. In general, BLM's analysis fails to adequately integrate climate impacts into the environmental baseline and across alternatives.

4. BLM must fully consider measures to mitigate climate impacts.

BLM must ensure full compliance with the mitigation hierarchy, accounting for impacts at the local, regional, national, and global scale. BLM must implement mandatory mitigation measures for offsetting GHG emissions, beginning with the mitigation measures shown on page C-2 of Appendix C in the Draft RMPA/EIS. BLM must acknowledge that impacts can be avoided by closing areas to leasing, especially in low potential areas, minimized by requiring BMPs, COAs, and stipulations and measures such as those in the methane rule and fracking rule, and compensated for by providing for carbon offsets and other tools. All of these measures are reasonable, within BLM's scope of authority, and necessary to address climate change impacts.

These provisions are explained in further detail in Appendix A, attached to these comments, outlining provisions of a net zero fossil fuel emissions framework that should be considered in the ongoing planning effort. Consideration of these proposed alternatives and required mitigation measures will necessarily require, at a minimum, a supplemental EIS, and, more properly, a full RMP revision.

5. BLM must analyze option value and climate impacts on multiple use in land use planning.

BLM must factor option value into its land use planning decisions and subsequent leasing and development phases to deliver a fair return to the American public. BLM should consider at least one alternative where option values would be preserved, including through closing much of the planning area to leasing, delaying or deferring leasing and/or mandating lease stipulations that permit consideration of option value when development is proposed. Mitigation measures should be considered in the context of BLM's multiple use mission and the need to protect those resources, such as cultural sites, wildlife resources, and recreation areas. The impacts of climate change to those resources must be fully analyzed. This should be fully apparent in the alternatives considered in the EIS for this Draft RMPA, as well as the baseline (affected environment) that is considered.

6. BLM must analyze an adequate range of alternatives related to climate change impacts.

To comply with NEPA, BLM must consider a full range of alternatives for this RMPA, including a range of options for reducing and offsetting climate change impacts and GHG emissions. Despite providing a number of alternatives in the Draft RMPA/EIS, BLM fails to analyze a range addressing oil and gas development and associated climate impacts, including, but not necessarily limited to, the following reasonable alternatives or elements thereof:

- **Making no public lands available for oil and gas leasing**. This is not the same as a no action alternative. *See New Mexico ex rel. Richardson v. Bureau of Land Mgmt.,* 565 F.3d 683, 708-11 (10th Cir. 2009) (invalidating NEPA analysis that failed to analyze an alternative that would close the entire area to oil and gas development because "[w]ithout substantive, comparative environmental impact information regarding other possible courses of action, the ability of an EIS to inform agency deliberation and facilitate public involvement would be greatly degraded."). The same is true here, where an alternative that would make no lands available for leasing is

necessary to facilitate a fully informed decision about the impacts of the action alternatives.

- **Making areas with low or no development potential unavailable for oil and gas leasing**, as recognized in *Wilderness Workshop v. Bureau of Land Mgmt.,* 342, F. Supp. 3d at 1145, 1156 (D. Colo. 2018).
- A **net zero GHG emissions control strategy**. BLM should establish a carbon budget across all federal oil and gas leasing and development that ensures that the agency will reach net zero emissions for oil and gas leasing and development by 2030. Within the Draft RMPA/EIS, BLM should analyze an alternative that sets a carbon budget specific to the Farmington Field Office that ensures that GHG emissions from development of existing oil and gas leases and any future leasing and development authorized under the plan do not exceed the maximum level that could be allowed to achieve a net zero by 2030 goal within the planning area. The feasibility of this alternative is further outlined in Appendix A.
    - This alternative should include analyzing avoidance of GHG emissions by restricting lands open to leasing, including a no new leasing alternative and an alternative that restricts leasing to a much smaller area than any of the alternatives currently analyzed in the Draft RMPA/EIS. This alternative should also analyze the application of minimization measures to development on existing leases and quantify the remaining GHG emissions. Available tools include requiring delayed leasing and development; phased leasing and development, beginning with leasing in areas with sufficient existing pipeline infrastructure and in areas with access to reliable electricity; stipulations and conditions of approval that are not subject to waivers, exceptions, or modifications; lease sale notices that preserve BLM's ability to impose additional measures to minimize GHG emissions at the APD stage, or to delay or deny proposed development as needed to achieve net zero emissions; and conditions of approval requiring net zero emissions for drilling permits on existing leases.
    - This alternative must include measures to offset remaining GHG emissions that cannot be avoided or minimized. Offsetting emissions could be achieved by requiring compensatory mitigation, including restoration projects to increase vegetation and improve habitat, protecting land that provides clean air and water, funding for communities impacted by climate change for public health or other services, and infrastructure investments to improve access to drinking water and electricity. Offsets should be focused on areas where oil and gas development is occurring. BLM should also analyze requiring developers to purchase carbon offsets for the actual GHG emissions from their development.
    - Finally, BLM's analysis of this alternative must include requirements to fully address air quality and environmental justice issues related to any additional development that occurs in the planning area. BLM must address these issues by requiring measures to avoid, minimize and offset air quality impacts to ensure no net loss of air quality.
- **Consideration of option value** and ways to modify, delay, or otherwise restrict development based on that analysis. Described in further detail in Section V(B)(5), above.
- **Protection of carbon sinks.**

Consideration of these alternatives will require, at a minimum, a supplemental EIS, and, more properly, a full RMP revision.

C. BLM Must Fully Account for Climate Impacts under the Administrative Procedure Act

BLM must ensure the RMPA's climate analysis complies with the Administrative Procedure Act (APA). The APA provides that agency action can be set aside when it is deemed "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A).

BLM operates under many requirements that demand full consideration of climate change issues and mitigation throughout the oil and gas planning, leasing, and development process. BLM must "take any action necessary to prevent unnecessary or undue degradation" of the public lands. 43 U.S.C. § 1732(b). It is national policy that BLM should manage the public lands in a manner that will protect them, including air and atmospheric values. *Id.* § 1701(a)(8). Environmental protection measures are required to be incorporated in oil and gas leases by the Mineral Leasing Act. 30 U.S.C. § 226(g).

Under the APA, an action is arbitrary and capricious "if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.,* 463 U.S. 29, 43 (1983). The APA's standard of reasoned decision-making requires agencies to consider both the advantages and disadvantages—in other words, both the costs and benefits—of their decisions. *Michigan v. EPA,* 135 S. Ct. 2699, 2707 (2015). The climate change analysis in this RMPA utterly fails to demonstrate full consideration of all relevant factors in a reasoned way to avoid being deemed arbitrary and capricious.

D. BLM Must Fully Account for, Reduce, and Mitigate the Impacts of Climate Change in this RMPA as required by FLPMA and the Mineral Leasing Act.

BLM must fully account for the climate impacts associated with this RMPA, reduce the impacts as much as possible, and fully mitigate any remaining impacts to ensure net zero climate emissions. BLM has ample authority to do so and indeed must do so to satisfy its statutory obligations under FLPMA and the Mineral Lease Act (MLA).

In recognition of the environmental components of the multiple use mandate, courts have repeatedly held that development of public lands is not required, but must instead be weighed against other possible uses, including conservation to protect environmental values. *See, e.g., New Mexico ex rel. Richardson*, 565 F.3d at 710 ("BLM's obligation to manage for multiple use does not mean that development *must* be allowed . . . . Development is a *possible* use, which BLM must weigh against other possible uses—including conservation to protect environmental values, which are best assessed through the NEPA process." (emphasis in original)); *Wilderness Workshop v. BLM*, 342 F. Supp. 3d at1145, 1166 (D. Colo. 2018) ("the principle of multiple use does not require BLM to prioritize development over other uses" (internal quotations and citations omitted)). Just as BLM can deny a project outright in order to protect the environmental uses of public lands, it can also condition a project's approval on the commitment to mitigation measures that lessen environmental impacts. *See, e.g., Pub. Lands Council v. Babbitt*, 167 F.3d 1287, 1300–01 (10th Cir.

1999) ("FLPMA unambiguously authorizes the Secretary to specify terms and conditions in livestock grazing permits in accordance with land use plans"); *Grynberg Petro*, 152 IBLA 300, 307–08 (2000) (describing how appellants challenging conditions of approval bear the burden of establishing that they are "unreasonable or not supported by the data").

The multiple use framework's provision for protecting environmental resources and emphasis on the need to balance needs of present and future generations are highly relevant to consideration of climate change-related impacts. Climate change will inevitably affect future generations more than present ones and threatens to deplete a variety of resources – both renewable and nonrenewable. In addition, climate change is affecting and will continue to affect every other resource value included in the multiple use framework, whether environmental, recreational, or economic in nature, due to the many changes it is causing to the ecosystems of public lands and increased threats from natural disasters. In this context, satisfying FLPMA's multiple use and sustained yield mandate requires BLM to fully account for the climate impacts, reduce the impacts as much as possible, and fully mitigate any remaining impacts to ensure net zero climate emissions as a condition of approval on any leasing or development decisions pursuant to this RMPA.

Given the catastrophic impacts of climate change on public lands, multiple uses, and future generations, avoiding "unnecessary or undue degradation" of lands requires BLM to ensure net zero carbon emissions from any leasing or development decisions. Given the global nature of climate change, it is *never* necessary to have a net incremental increase in GHG emissions because any emissions can be fully mitigated and offset. In other words, a net zero carbon budget can readily be accomplished, whether that is by not leasing, delaying leasing or development to account for option value, and/or imposing mandatory measures to mitigate and offset any GHG emissions as stipulations and/or conditions of approval. Particularly given the significant GHG emissions and climate impacts that are reasonably foreseeable under the Farmington RMPA, BLM must define "unnecessary and undue degradation" to require net zero carbon emissions within the Farmington Field Office. This will necessarily require, at a minimum, a supplemental NEPA analysis and a supplemental EIS. More appropriately, this should require a wholesale RMP revision – not the current amendment approach that BLM is pursuing.

FLPMA's broad policy directives support this approach. For instance, FLPMA calls on BLM to manage public lands "in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air *and atmospheric*, water resource, and archaeological values." 43 U.S.C. § 1701(a)(8) (emphasis added). It also directs BLM to receive "fair market value" for the use of public lands. *Id.* § 1701(a)(9). "Fair market value" is not defined in FLPMA, but BLM's economic valuation handbook and previous working groups convened by the Department of the Interior indicate that "economic, environmental, and social considerations [should be considered] in determining the value of federal lands – including option value."[42] Because climate change, and thus all emissions of GHGs, create costs to be borne by society at large and by the BLM in adapting its lands to the changing climate, the "fair market value" of oil and gas extraction activities should take carbon costs into consideration and be addressed through compensatory mitigation.

VI. LANDS WITH WILDERNESS CHARACTERISTICS

Lands with wilderness characteristics (LWCs) are essential pieces of federal land management planning. These areas often represent the last vestiges of untrammeled lands and offer tremendous recreational, wildlife, climate change, and natural benefits to the immediate community, the region, and the country. As detailed below, we have serious concerns with the process employed, and the result arrived at, by the BLM in the inventory and the Draft RMPA/EIS.

BLM acknowledges "trends in areas with wilderness characteristics indicate an overall decreasing quality of naturalness and opportunities for solitude and primitive, unconfined recreation," and that "[a]n increasing amount of oil and gas developments, agricultural infrastructure, recreation developments, routes and [rights of way]…" will further decrease the wilderness qualities of these lands. *See* Draft EIS 3-156. Despite this acknowledgement, BLM is proposing to emphasize other uses *over* preservation of inventoried LWCs in Alternatives C, D, and the no action alternative. These Alternatives will only accelerate any degradation of wilderness qualities on BLM-inventoried LWCs and additional LWCs inventoried by the New Mexico Wilderness Alliance.

A. The Draft EIS fails to consider a reasonable range of alternatives for managing and protecting lands with wilderness characteristics.

To be consistent with BLM Manual 6320, BLM must examine a full range of alternatives for managing inventoried lands with wilderness characteristics during land use planning. The Draft EIS fails to meet this requirement and instead analyzes alternatives from two narrow perspectives - emphasizing protection of LWCs over other uses or choosing to not manage LWCs for protection. *See* Draft EIS at 2-9 (Alternatives A and B would emphasize protection of LWCs over other uses, while Alternatives C, D, and the no action alternative all emphasize other uses over preservation of inventoried LWCs.) The all or nothing approach that BLM presents is not sufficient to meet NEPA's range of alternatives requirement. BLM should include alternatives that balance various management options, including tailoring management prescriptions to individual units based on specific threats to wilderness values and supplemental values that are present. Simply put, the range of alternatives presented in the Draft RMPA/EIS violates NEPA and BLM must consider a wider range before issuing a Proposed RMPA.

B. The Draft EIS fails to adequately consider the environmental effects associated with protecting lands with wilderness characteristics.

NEPA's "hard look" requirement directs BLM to consider both beneficial and detrimental effects of the environmental consequences of the agency's proposed action. *See* 40 C.F.R. § 1508.8. BLM Manual 6320 provides that BLM must "consider the benefits that may accrue to other resource values and uses as a result of protecting wilderness characteristics." BLM Manual 6320.06(A)(1)(b). Those benefits should be analyzed in the RMPA, particularly in the environmental effects analysis. . They include the following:

> (1) Scenic values – FLPMA specifically identifies "scenic values" as a resource of BLM lands for purposes of inventory and management (43 U.S.C. § 1711(a)), and the unspoiled landscapes of LWCs generally provide spectacular viewing experiences. The scenic values of these lands will be severely compromised if destructive activities or other visual impairments are permitted.
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> (2) Recreation – FLPMA also identifies "outdoor recreation" as a valuable resource to be inventoried and managed by BLM. 43 U.S.C. § 1711(a). LWCs provide opportunities for primitive recreation, such as hiking, camping, hunting and wildlife viewing. Most primitive recreation experiences will eventually be foreclosed or severely impacted if the naturalness and quiet of these lands are not preserved.
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> (3) Wildlife habitat, connectivity and riparian areas – FLPMA acknowledges the value of wildlife habitat found in public lands and recognizes habitat as an

important use. 43 U.S.C. § 1702(c). Due to their unspoiled state, LWCs provide valuable habitat for wildlife, thereby supporting additional resources and uses of the public lands. As part of their habitat, many species are also dependent on riparian and other wetland habitats, especially during either seasonal migrations or seasons and years when surrounding habitats are dry and unproductive. Wilderness-quality lands support biodiversity, watershed protection and overall healthy ecosystems. In addition, they provide connectivity that facilitates wildlife migration, seasonal movements and dispersal of young. The low route density, absence of development activities and corresponding absence of motorized vehicles, which are integral to wilderness character, also ensure the clean air, clean water and lack of disturbance necessary for productive wildlife habitat, large scale connectivity and riparian areas (which support both wildlife habitat and human uses of water).

(4) Cultural resources – FLPMA also recognizes the importance of "historical values" as part of the resources of the public lands to be protected. 43 U.S.C. § 1702(c). The lack of intensive human access and activity on LWCs helps to protect these resources. Managing lands to protect wilderness qualities will therefore help protect cultural and archaeological sites.

(5) Quality of life – The wildlands located within the planning area help to define the character of this area and are an important component of the quality of life for local residents and future generations, providing wilderness values in proximity to the population centers spread across the planning area. Their protection enables the customs and culture of this community to continue.

(6) Balanced use – The vast majority of BLM lands are open to motorized use and development. FLPMA recognizes that "multiple use" of the public lands requires "a combination of balanced and diverse resource uses" that includes recreation, watershed, wildlife, fish, and natural scenic and historical values. 43 U.S.C. § 1702(c). FLPMA also requires BLM to prepare land use plans that may limit certain uses in some areas. 43 U.S.C. § 1712. Many other multiple uses of public lands are compatible with protection of wilderness characteristics – in fact, many are enhanced if not dependent on protection of wilderness qualities (such as primitive recreation and wildlife habitat). Protection of wilderness characteristics will benefit many of the other multiple uses and values of BLM lands such as air and water quality, night skies, soundscapes, and viewsheds, while other more exclusionary uses (such as off-road vehicle use and energy development) will still have adequate opportunities on other BLM lands.

The Draft RMPA/EIS does not analyze these benefits in detail and also fails to acknowledge or analyze the economic benefits of protecting LWCs. The recreation opportunities provided by wilderness quality lands yield direct economic benefits to local communities. According to the U.S. Fish & Wildlife Service, in 2011 State residents and non-residents spent $937 million on wildlife recreation in New Mexico.[25] In addition, local communities near protected lands reap measurable benefits in terms of employment and personal income. $44 million was generated in personal income to people specifically tied to quiet, or non-motorized, recreation on New Mexico's BLM

[25] *See* https://www.census/gov/prod/2013pubs/fhw11-nm.pdf.

lands in 2014.[26] A report by the Sonoran Institute found that protected lands have the greatest influence on economic growth in rural isolated counties that lack easy access to larger markets.[27] From 1970 to 2000, real per capita income in isolated rural counties with protected land grew more than 60 percent faster than isolated counties without any protected lands. This report also found that rural western counties with a higher dependence on extractive industries showed lower income and employment growth.[28]

These findings confirm earlier research, showing that wilderness and open space are beneficial for local economies. Residents of counties with wilderness cite wilderness as an important reason why they moved to the county, and long-term residents cite it as a reason they stay. Recent survey results also indicate that many firms decide to locate or stay in the West because of scenic amenities and wildlife-based recreation, both of which are strongly supported by wilderness areas.[29] Other "non-market" economic values arise from the ability of wildlands to contribute to recreation and recreation-related jobs, scientific research, scenic viewsheds, biodiversity conservation, and watershed protection.[30] All of these economic benefits are dependent upon adequate protection of the wilderness characteristics of the lands.

BLM also has current guidance on estimating nonmarket environmental values and analyzing those values in land use planning.[31] IM 2013-131 directs BLM to "utilize estimates of nonmarket environmental values in NEPA analysis supporting planning and other decision-making." Nonmarket values are described as values that "reflect the benefits individuals attribute to experiences of the environment, uses of natural resources, or the existence of particular ecological conditions that do not involve market transactions and therefore lack prices," such as "the perceived benefit of hiking in wilderness."

The Draft RMPA's environmental consequences supplemental report qualitatively addresses nonmarket values, briefly stating that protecting LWCs would also protect nonmarket values. *See* 2020 Environmental Consequences Supplemental Report p. EC-74 and EC-68. This is not adequate analysis to inform or support management decisions in the RMP. BLM must complete a more robust analysis of nonmarket values, including specifically lands managed to protect wilderness characteristics.

BLM's guidance directs the agency to analyze nonmarket values for each alternative and adopt management decisions that are informed by that analysis:

> In framing information for management decisions, focus on the *difference in changes to nonmarket values* between action alternatives. Such information can highlight tradeoffs. For example, an alternative designating an additional thirty miles of trails for off-highway vehicles may *increase* the visitor days of use – therefore the total

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[26] *See* https://www.pewtrusts.org/-/media/assets/2016/03/quiet_recreation_on_blm_managed_lands_economic_contribution_2014.pdf?la=en&hash=FAB189845501C70E0D180E0502895FE18087802A.
[27] Rasker.
[28] *See also* Rudzitis and Johansen (1989, 1991), Whitelaw and Niemi (1989), Johnson and Rasker (1993, 1995), and Lorah (2001) for additional research on the role of wildlands in the local economy.
[29] Morton (2000).
[30] Morton (1999); Loomis (2001).
[31] IM 2013-131, available at: http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2013/IM_2013-131_Ch1.print.html.

> nonmarket benefits – from motorized recreation, but may *decrease* the benefits of subsistence hunting and watershed protection in this area. The *difference* between the changes to nonmarket values between this alternative and an alternative that, for example, only designates an additional ten miles of trails, can inform the choice among action alternatives.[32]

The guidance also directs that quantitative analysis of nonmarket values is strongly encouraged when "the alternatives to be considered present a strong contrast between extractive and nonextractive uses of land and resources. For example an RMP may include alternative resource allocations that vary between managing land primarily for oil and gas development or managing it for habitat conservation and recreation."[33] Because the Farmington RMPA is evaluating a range of alternatives that has a development-focused alternative at one end of the spectrum and a conservation-focused alternative at the other, this criterion applies to the RMPA and BLM should conduct quantitative analysis of nonmarket values.

C. Requested management for lands with wilderness characteristics.

Manual 6320 requires BLM to consider lands with wilderness characteristics in land use planning, both in evaluating the impacts of management alternatives on lands with wilderness characteristics and in evaluating a range of alternatives that would protect those values. Examples of management prescriptions that will most effectively protect lands with wilderness characteristics in the Farmington RMP planning area include, but are not limited to, the following:

- Recommend withdrawal from mineral entry;
- Close to leasing or allow leasing only with no surface occupancy with no exceptions, waivers, or modifications;
- Designate as right-of-way exclusion areas;
- Close to construction of new roads;
- Designate as closed to motor vehicle use, as limited to motor vehicle use on designated routes, or as limited to mechanized use on designated routes;
- Close to mineral material sales;
- Designate as Visual Resource Management Class I or II;
- Restrict construction of new structures and facilities unrelated to the preservation or enhancement of wilderness characteristics or necessary for the management of uses allowed under the land use plan; and/or
- Retain public lands in federal ownership.

As it stands, the Draft RMPA/EIS only considers two alternatives, Alternatives A and B, that provide proper management of LWCs. The lands that BLM has identified to contain LWC comprise about 1.7% of the total managed surface lands within the field office. Given that 80 percent of the field office is already leased for oil and gas development, this tiny fraction of wilderness quality lands must be properly managed and maintained.

In contrast, BLM's Preferred Alternative C would emphasize "other multiple uses as a priority over protecting wilderness characteristics." First, we object to BLM using the term "other multiple uses" as a euphemism for fluid mineral leasing. As stated plainly in Chapter 1, page 1-1, of the document, the purpose of the Draft RMPA/EIS is "to examine changes in oil and gas (O/G) development

[32] IM 2013-131, Attachment 1-5.
[33] IM 2013-131, Attachment 1-7.

patterns in the Mancos/Gallup formations, including innovations in horizontal drilling technology and multistage hydraulic fracturing." In truth, "other multiple uses" in the context of this document refers primarily to oil and gas development – not recreation, grazing, timber harvesting, or other uses within the spectrum of BLM's multiple use mandate. In effect and in fact, the preferred alternative prioritizes oil and gas development over the protection of wilderness characteristics; and BLM should state as much in its alternative description.

We also note with concern that BLM uses the same euphemism ("other multiple uses" when really referring to oil and gas development) in numerous other locations throughout the document. We urge BLM to be more straightforward in how it describes its relative priorities in the various management alternatives. In subsequent NEPA documents on this proposal, we request that BLM replace the term "other multiple uses" with the more accurate term "fluid mineral leasing and related operations and development" wherever it is applicable.

At a minimum, BLM should protect all units found by the agency to contain wilderness characteristics in the proposed RMPA. We urge BLM to modify its Preferred Alternative to include adequate protections, as described in Alternatives A and B, for the limited portions of the BLM decision area that are LWCs. In addition to these provisions, we request that BLM also establish an NSO stipulation for 0-3 miles around LWCs in order to minimize noise and visual impacts.

D. BLM fails to comply with FLPMA's multiple-use and sustained yield mandate with respect to lands with wilderness characteristics.

BLM's multiple use mandate indicates that BLM should protect all LWCs in the Farmington Field Office. FLPMA obligates the BLM to abide by the principles of multiple use and sustained yield, especially during the land use planning process. Multiple use is defined as:

> the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people…the use of some land for less than all of the resources; 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; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources *and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.*

43 U.S.C. § 1702(c) (emphasis added).

The definition of multiple use makes it clear that simply because a particular resource exists does not mean that the BLM needs to be able to extract that resource for a profit. It is well within the realm of BLM's multiple use mandate to close a significant portion of the planning area to oil and gas leasing. The U.S. Court of Appeals for the 10th Circuit has reiterated this: "[i]t is past doubt that the principle of multiple use does not require BLM to prioritize development over other used." *New Mexico ex rel. Richardson*, 565 F.3d at 710.

As noted above, FLPMA recognizes that "multiple use" of the public lands requires "a combination of balanced and diverse resource uses" that includes recreation, watershed, wildlife, fish, and natural scenic and historical values." 43 U.S.C. 1702(c). FLPMA also requires BLM to prepare land use plans that may limit certain uses in some areas. *Id*.. § 1712. The BLM has a multiple use mandate and must manage its land for a variety of uses, not primarily for oil and gas development. *Id*.§ 1712(c)(1). Any decision which leaves the vast majority of the field office open to oil and gas development will preclude the effectiveness or long-term viability of any conservation measures as there is always the potential that those conservation measures could be jeopardized by oil and gas development, regardless of how low the potential for development is currently.

In the Farmington Field Office, approximately 80% of the planning area is open to leasing and is proposed to remain open to leasing in the preferred alternative of the Draft RMPA/EIS. The San Juan Basin is being developed extremely rapidly. We understand that BLM is facing enormous pressure to allow additional development, but we hope this pressure results in BLM taking its multiple use obligations more seriously than ever. The Farmington Field Office is running a serious risk of becoming a single-use field office, and this RMPA is a critical opportunity to preserve some of the last special ecosystems in northwestern New Mexico. BLM must comply with its legal obligations and consider meaningful protection of LWCs in the Draft RMPA/EIS. Even if BLM protected all agency-identified LWCs (24,300 acres) and citizen LWCs (about 23,500 acres) it would only be protecting approximately 3.4% of the field office for preservation of wilderness characteristics.

Recommendation: BLM must conduct more thorough analysis of the beneficial impacts of protecting LWCs on other resources, including a quantitative analysis of non-market values. BLM should protectively manage all inventoried LWCs in the planning area, in compliance with the agency's multiple use mandate.

E. BLM must update its inventory for lands with wilderness characteristics.

1. BLM must include lands with wilderness characteristics inventory as part of this planning process.

FLPMA requires BLM to inventory and consider LWCs during the land use planning process. 43 U.S.C. § 1711(a); *see also Ore. Natural Desert Ass'n v. BLM*, 625 F.3d 1092 at (holding that "wilderness characteristics are among the values the FLPMA specifically assigns to the BLM to manage in land use plans). Instruction Memorandum (IM) 2011-154 directs BLM to consider LWC in land use plans and when analyzing projects under NEPA. The IM promulgates current agency policy for considering the wilderness characteristics on public lands as part of its multiple-use mandate in developing and revising land use plans and when making subsequent project level decisions, consistent with FLPMA. The IM directs BLM to "conduct and maintain inventories regarding the presence or absence of wilderness characteristics, and to consider identified LWCs in land use plans and when analyzing projects under [NEPA]." BLM Manual 6310 instructs BLM how to conduct LWCs inventories in compliance with FLPMA and agency policy. Manual 6320 requires BLM to consider LWCs in land use planning, both in evaluating the impacts of management alternatives on LWCs and in evaluating alternatives that would protect those values. The Draft RMPA/EIS fails to adequately analyze or protect LWCs.

The Farmington Field Office conducted an updated inventory for lands with wilderness characteristics as part of this amendment. The Field Office's previous inventory had not been updated since 1986. As such, the Draft RMPA/EIS reassessed all existing units established in 1986,

including a new route and right of way analysis, GIS and field review, and boundary corrections. In all, BLM inventoried 25 units covering 225,500 acres. Of these, BLM found four units covering 25,000 acres to contain wilderness characteristics. Since this inventory, one unit, covering 700 acres, has become part of the Bisti De Na Zin wilderness area. BLM has carried forward 24,300 acres as their inventory pursuant to this Draft RMPA/EIS. In general, we agree with BLM's assessment of the three LWC units listed below. We would like to see proper management for these units incorporated into the Draft RMPA/EIS.

a. Unit NM-210-069 / Crow Mesa – Partial Unit

This unit's configuration allows for a probable chance of a visitor being able to find seclusion. In some areas the unit extends for over 4 miles of contiguous undeveloped public lands. The varied topography within canyons in between mesas offers excellent opportunities to escape the sights and sounds of other visitors in the area. Given the configuration and topographic variation, the ability for visitors to find seclusion and avoid contact with the sights and sounds of other visitors are outstanding.

Canyons throughout the unit offer outstanding opportunities for primitive recreation, especially hiking and backpacking. Camping could be limited due to the lack of developed potable water sources for humans in the region. Horseback riding would be excellent through the canyons, but may be limited when crossing between canyons given the ruggedness of some peaks. During certain times of the year, intermittent flow in streams throughout the unit could provide a water source for horses while visitors travel through the unit.

The Special Designation Area, Crow Mesa, overlaps the eastern portion of the unit. The goal for the Crow Mesa Wildlife Area is to focus on protecting big game and their habitat. Visitors have unique opportunities to view and photograph big game such as Elk and Mule Deer and migratory birds including the Pinion Jay. Also, the Pretty Woman Cultural site is just north of the Crow Mesa SDA in the eastern portion of the unit and is delineated as an 84-acre parcel. This area is closed to OHV use and provides a unique historical and cultural value for visitors of the unit.

The canyons scattered throughout the unit would provide excellent opportunities for visitors to seclude themselves and present an exceptional challenge to hikers and backpackers visiting the unit. Special designation areas such as Crow Mesa and Pretty Woman cultural site provide supplemental scenic and historical values to visitors of the unit. Overall, this unit possesses a high degree of naturalness and is untrammeled by the works of man.

b. Unit NM-210-075

The Fossil Forest Research Natural Area (RNA) is located in the eastern portion of the unit, encompassing approximately 2,800 acres. The Fossil Forest RNA is closed to OHV use. This portion of the unit resembles areas found within the Bisti/De-Na-Zin Wilderness which is to the north of this unit. The topography of the unit is mostly flat with gently sloping hills in the interior. Aerial imagery shows that the Fossil Forest portion of the unit offers more varied topography including craters, jagged hills, and rock formations. Vegetation is dominated by grass and shrub varieties. There are no active oil and gas operations in the unit. Overall, the unit appears to have been affected primarily by the forces of nature.

While much of the area is topographically flat and wouldn't offer much opportunity for solitude, the varied topography of interior areas would offer areas of seclusion. Because of its remoteness and lack of developments, evidence of other visitors would be unlikely in this unit.

This unit (particularly the interior areas) offers outstanding opportunities for backpacking, wildlife observation, and sightseeing for geological and paleontological resources.

2,800 acres of the unit are within the Fossil Forest Research Natural Area. This area contains paleontological and geological resources.

The interior portions of this unit offer outstanding opportunities for solitude. Backpacking and geological observation opportunities are also abundant in these interior areas. The unit is void of any human developments. The unit appears to have been affected primarily by the forces of nature. The supplemental values offered by the Fossil Forest RNA within the unit are also significant.

c. Unit NM-210-082 / Chacra Mesa

Opportunities for solitude within this unit are abundant. Because the unit receives minimal visitation, it is unlikely that a visitor would encounter another visitor; no one was encountered during the inventory. Once a visitor is within the unit, evidence of other people is rarely apparent; oil and gas activities are not visible or audible. Solitude can be found atop the mesa and solitude is likely even more possible when venturing into the valley and canyon areas of the unit.
The unit is open to the public but visitation to the unit is minimal. Activities within the unit are consistent with wilderness values, including primitive hunting and wood gathering. The area offers significant opportunities for backpacking (much of the area is inaccessible from primitive routes), photography, and bird watching.

The entire unit is part of the Chacra Mesa Complex ACEC as a significant cultural site (Anasazi community). Several cultural sites are found within this unit, including a site known as Reservoir Ruin. This site is from approximately 1100-1300AD and is 95% intact. The area likely offered a strategic vantage point and including several prehistoric features including: a two-story structure with some modern stabilization for preservation purposes; a midden (trash mound) that includes pottery shards and leftover masonry; two kivas (ceremonial sites) including a large great kiva or possible reservoir; a prehistoric trail/road. Very little study has been done on this area; educational opportunities are significant.

This unit appears to be affected primarily by the forces of nature. Routes within this unit are primitive and no extractive activities occur within the unit. Opportunities for solitude and primitive and unconfined recreation are abundant. The unit includes significant cultural sites, many of which have not yet been extensively surveyed.

2. BLM failed to adequately respond to lands with wilderness characteristics inventory information submitted by the public.

BLM Manual 6310 states that BLM must review inventory information from external parties documenting LWCs when it includes:

- A map of sufficient detail to determine specific boundaries of the area in question;

- A detailed narrative that describes the wilderness characteristics of the area and documents how that information substantially differs from the information in the BLM inventory of the area's wilderness characteristics; and
- Photographic documentation.[34]

When BLM receives information that meets these minimum standards, the agency is directed to review the information "as soon as practicable," "make the findings available to the public," and "retain a record of the evaluation and the findings as evidence of the BLM's consideration."[35] In 2015, New Mexico Wilderness Alliance conducted its own inventory of BLM land within the planning area which was not already included in BLM's internal inventory. The organization submitted data on 7 units totaling approximately 43,471 acres to BLM on March 20th, 2015. For each unit, the submission included photographs, a map, and a written narrative describing how the unit met the wilderness characteristics criteria.

BLM has repeatedly acknowledged receipt of inventory submitted by the New Mexico Wilderness Alliance, the Draft RMPA/EIS does not reflect a substantial portion of this inventory. Out of 7 submitted units, only a portion of one, the Crow Mesa unit, is specifically addressed in the Draft RMPA/EIS. The New Mexico Wilderness Alliance inventory constitutes significant new information that must be considered in the RMPA. In accordance with FLPMA, as well as the requirements of BLM Manuals 6310 and 6320, BLM must analyze the inventory, provide a response and evaluate management alternatives prior to issuing a Proposed RMPA/Final EIS so that the public can comment on this analysis.

Two areas, LWC3 and Ignacio Chavez are outside of the planning area, so it is reasonable for BLM to not include them in the current planning effort. Another area, the Ah-Shi-Sle-Pah addition was Congressionally designated prior to the publication of the Draft RMPA/EIS. However, the remaining four areas are largely unaccounted for. We encourage the BLM to include the remaining four areas in the proposed RMPA: Bisti Wilderness Area addition, LWC 2, Split Lip Flats, and the entirety of the Crow Mesa unit. We recognize and appreciate that the BLM has inventoried areas not included in the New Mexico Wilderness Alliance citizen proposal and encourage the agency to carry these areas into the proposed RMPA as well.

BLM's decision to ignore public input on affected wilderness resources contravenes the "hard look" requirement of NEPA. *See* 42 U.S.C. § 4332(2)(C). Numerous courts have applied the hard look mandate to overturn agency decisions that ignored substantive, relevant wilderness information provided by the public, including citizen-submitted wilderness inventories. *See, e.g., Or. Natural Desert Ass'n v. Rasmussen*, 451 F. Supp. 2d 1202, 1211-13 (D. Ore. 2006) (holding that BLM violated the hard look requirement of NEPA when it dismissed a citizen-submitted inventory "[w]ith a broad brush"); *SUWA v. Norton*, 457 F. Supp. 2d 1253, 1263-65 (D. Utah 2006) ("…Utah BLM ignored significant new information…information provided by the Southern Utah Wilderness Alliance…presented a textbook example of significant new information about the affected environment (the wilderness attributes and characteristics…)"); *Biodiversity Conservation Alliance*, 183 IBLA 97, 2013 IBLA Lexis *1, *28-*29 (2013) (rejecting a claim that BLM violated the hard look requirement where BLM "specifically evaluated citizens' wilderness proposals [so that the citizens' proposals had] become administratively final…").

[34] BLM Manual 6310 at .06(B)((1)(b).
[35] *Id.* at .06(B)(2).

Additionally, an accurate and comprehensive inventory of LWCs is necessary to inform management alternatives, impact analysis and decision-making under the NEPA. NEPA, 42 U.S.C. § 4321 *et seq.*, requires agencies to "describe the environment of the areas to be affected or created by the alternatives under consideration." 40 C.F.R. § 1502.15; *see also Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988) ("without establishing…baseline conditions…there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA"). Therefore, BLM must respond to the LWC inventory information submitted by the New Mexico Wilderness Alliance and allow the public the opportunity to review and comment on the inventory to obtain an accurate baseline and properly inform NEPA analysis and decision-making.

Specifics on New Mexico Wilderness Alliance's citizen inventory are included below.

a. Bisti Wilderness Area Addition

This area is entirely roadless, with one spur route going into, but not transecting, the unit. It is difficult to access, but from observations taken just outside the unit, there are no apparent human impacts on this small addition and the area. The unit exhibits the same values as the wilderness adjacent to it.

The addition would present the same opportunities for solitude and primitive recreation as the Bisti Wilderness Area itself. The BLM describes the Bisti as "a rolling landscape of badlands which offers some of the most unusual scenery found in the Four Corners Region. Time and natural elements have etched a fantasy world of strange rock formations made of interbedded sandstone, shale, mudstone, coal, and silt. The weathering of the sandstone forms hoodoos—weathered rock in the form of pinnacles, spires, cap rocks, and other unusual forms. Fossils occur in this sedimentary landform."

Broad sage and grass plains roll across much of the complex. In the southern portion of Ah-Shi-Sle-Pah colorful fossiliferous badlands, enhanced by spires, towers, mushroom-shaped hoodoos, and other geologic oddities can be found. The scenic badlands and geologic oddities in this area are formed from two late Cretaceous sedimentary formations, the Kirtland Shale and the Fruitland Formation, both of which were formed in a shallow inland sea that left alternating marine and coastal marine deposits. They contain a diverse assemblage of well-preserved fossils that include petrified logs and leaves, turtles, crocodile scutes and teeth, garfish scales and teeth, and invertebrates such as plecypods, gastropods, and ammonoids (Kues, 1982).

This area lies within the Great Basin grassland vegetative community type, which is poorly represented in protected areas in New Mexico. Grassland vegetation in the complex includes alkali sacaton, blue grama, galleta, curly grass, and muglenbergia interspersed with big sagebrush, fourwing saltbush, black greasewood, and yucca. Bird species common in the area include kestrel, raven, horned lark, mountain plover, Say's phoebe, rock wren, and black-throated sparrow. The ferruginous hawk, a candidate endangered species, nests in the Ah-Shi-Sle-Pah unit. Split Lip Flats and Ah-Shi-Sle-Pah connect the Bisti/De-Na-Zin Wilderness to Chaco Culture National Historic Park; together, these areas form a contiguous corridor of generally undeveloped landscapes in a region that is under great pressure from oil and gas development. Human occupation in this area has been nearly continuous since 10,000 B.C.

b. LWC 2

Even though this unit is very close to U.S. Highway 550, it is nearly impossible to access due to private "no trespassing" signs at the roads leading off of the highway. New Mexico Wilderness Alliance necessarily collected data from outside the unit and from Google Earth imaging. Complete on the ground inventory should have been completed by BLM. Based on the information New Mexico Wilderness Alliance could gather, there is a track leading from the east side of the unit into the middle of the unit, but it ends at a canyon at the center without transecting the unit. In the northwest section of the unit where one of the spur routes enters, there is some oil and gas activity, but it could be removed from the unit without greatly adjusting the boundaries. There is a track going into the unit from the southwest, but it does not appear to be constructed and looks more like an off-highway vehicle track. There is a well pad on the far east side of the unit that should be cut out of the unit.

Other than the single well pad on the eastern boundary and the oil and gas activity on one small portion of the northwest part of the unit, the area is otherwise completely natural. The unit is full of canyons and incredibly interesting rock formations, as well as washes, badlands, arroyos and grassland.

This unit offers an excellent example of the ecosystem in Northeast New Mexico, and an outstanding opportunity to hike the badlands for which the Farmington Field Office is famous. The unit would also be excellent for birdwatching, rockhounding, archeological research, and hiking.

c. Split Lip Flats

Split Lip Flats has a long ridge in its eastern potion that contains petrified trees. The most notable archaeological resource in the Split Lip Flats unit is Pierre's Site, which includes three Chacoan structures, nine smaller structures, and nine special use areas, all dating from A.D. 900 to 1150. Two of the Chacoan structures are built on top of a prominent butte, and the third and largest is built on alluvial deposits. A total of 45 rooms and six kivas have been identified in these Chacoan structures, and the smaller sites each include 5 to 10 rooms with an associated kiva. In addition, the prehistoric "Great North Road," part of an ancient system of roads thought to connect major Chacooan Anasazi sites in the San Juan Basin, passes through the largest Chacoan site.

d. Crow Mesa – Full Unit

There are some roads leading into the Crow Mesa unit due to limited prior resource extraction activity, particularly in the southern portion of the unit. A few well pads would need to be cherry-stemmed out of the unit, but no roads go all the way through the unit and well pads are not overwhelming.

There is limited evidence of oil and gas activity on the unit and immediately outside of the unit, but it does not diminish the general appearance of naturalness. The unit itself is beautiful, with many arroyos and washes which in the spring present wildflowers. The topography is interesting with canyons, mountains, and rock formations.

This area would be excellent for hiking, exploring the unique topography of northeastern New Mexico, backpacking, and birdwatching. There are scenic vistas here which allow a visitor to see for miles. The unit is a perfect example of the rugged landscape that makes up much of the area, and it is likely that archaeological sites which have not yet been inventoried are prevalent here, creating an opportunity for scientific research as well.

Recommendation: BLM must respond to the LWC inventory information submitted by the New Mexico Wilderness Alliance, and allow the public an opportunity to review and comment on that inventory prior to publishing the Proposed RMPA.

VII. AREAS OF CRITICAL ENVIRONMENTAL CONCERN AND OTHER SPECIAL DESIGNATIONS

FLPMA specifically directs BLM to give priority to the designation and protection of Areas of Critical Environmental Concern. Section 201(a) states that:

> [t]he Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resource and other values (including, but not limited to, outdoor recreation and scenic values), *giving priority to areas of critical environmental concern*. This inventory shall be kept current so as to reflect changes in conditions and to identify new and emerging resource and other values.

43 U.S.C. § 1711(a) (emphasis added).

Section 202(c)(3) goes on to state that during land use planning, BLM shall, "give priority to the designation and protection of areas of critical environmental concern." 43 U.S.C. § 1712(c)(3). It is well established that when Congress uses the word "shall" in a statute, the agency does not have discretion to disregard the requirement. *See, e.g., Natural Resources Def. Council v. Jamison*, 815 F.Supp. 454, 468 (D.D.C. 1992) (Because the imperative language "shall" is used, "Congress [leaves] the Secretary no discretion" in how to administer FLPMA.).

As noted throughout these comments, BLM is required to manage the land in the Farmington Field Office under its jurisdiction for multiple uses, and cannot manage an entire field office solely for one use. BLM has ample jurisdiction to make decisions which restrict some uses in some areas, and which focus on conservation of scarce resources and a variety of uses in other areas. As it stands, the preferred alternative leaves the vast majority of the field office open to oil and gas development and does not present a balanced use of the public's land.

With so much of the field office already leased and developed, and so much left open to future leasing in the plan, BLM must take care to ensure that other uses of the land are preserved for future generations, or risk violating its mandate. The resources in the Farmington planning area include many values that merit protection through special designations. Protection of existing Areas of Critical Environmental Concerns (ACECs) and due consideration of proposed ACECs, including Research Natural Areas (RNAs) and Outstanding Natural Areas (ONAs), should be a priority in the Farmington RMP Amendment planning process.

ACECs have flexible management and various prescriptions may be tailored to the specific needs of the area. *See* BLM Manual 1613. This means that in some instances these areas should be closed to oil and gas development due to the sensitivity of the landscape, whereas other locations may see development but constraints and management prescriptions should be placed on to ensure ACEC values are properly protected.

We are pleased to see that across all Alternatives, BLM would close certain Areas of Critical Environmental Concern (ACECs), the Reese Canyon Research Natural Area, the Carracas Mesa Extensive Recreation Management Area (ERMA)/Wildlife Area, East La Plata Wildlife Area, and the Thomas Canyon ERMA/Wildlife Area to new leasing. *See* Draft RMPA 2-32. That being said, BLM

should limit all oil and gas development on ACECs across the planning area, with prioritization of the area's relevant and important values upfront.

Additionally, we encourage the BLM to close the following areas to new leasing: the Cereza Canyon Wildlife Area, the Crow Mesa Wildlife Area, the Ensenada Mesa Wildlife Area, the Gonzales Mesa Wildlife Area, the Middle Mesa Wildlife Area, and the Rosa Mesa Wildlife Area. This would protect a total of 304,000 acres from new leasing and would be more in line with BLM's multiple use land management mandate.

VIII. FAIR MARKET VALUE

FLPMA directs BLM to receive "fair market value" for the use of public lands. *Id.* § 1701(a)(9). Because the oil market has recently bottomed out, BLM cannot currently receive fair market value for leasing and development on public lands. BLM's economic valuation handbook defines "fair market value" as "the most probable price . . . for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to fair sale. . . ."[43] The current market clearly prevents BLM from leasing in a "competitive market" under conditions "requisite to fair sale." Even before the oil market bottomed out, BLM's recent lease sales in New Mexico and around the west have not delivered fair market value, with revenues far below historic levels and nearly half the acreage that did sell going for minimum bid. The table below details these sale results. Given the likely continued volatility in the oil market and likely continued inability for BLM to receive fair market value for leasing and development, BLM should close much of the planning area to leasing.

BLM Lease Sale	Parcels Sold / Offered (% Sold)	Acres Sold / Offered (% Sold)	Parcels /Acres Sold for Min. Bid (% of Total Sold)	Parcels / Acres Now Available for Non-Competitive Leasing (% of Total Offered)	Bid Per Acre This Sale / Bid Per Acre During Trump Admin
Colorado (Mar. 26)	9 / 20 (45%)	10,415 / 18,961 (55%)	3 / 3,400 (33% / 33%)	11 / 8,546 (55% / 45%)	$6 / $37
Eastern States (Mar. 19)	3 /3 (100%)	322 / 322 (100%)	0	0	$36 / $403
Montana (Mar. 24)	8 / 8 (100%)	5,181 / 5,181 (100%)	3 / 1,334 (38% / 26%)	0	$5 / $26
Nevada (Mar. 24)	2 / 45 (4%)	1,223 / 70,111 (2%)	2 / 1,223 (100%)	43 / 68,888 (96% / 98%)	$2 / $4

New Mexico (Feb. 6)	66 / 68 (97%)	16,712 / 17,025 (98%)	7 / 1,001 (11% / 6%)	2 / 313 (3% / 2%)	$1,386 / $5,508
Utah (Mar. 10)	22 / 25 (88%)	28,492 / 32,714 (87%)	18 / 24,836 (82% / 87%)	3 / 4,222 (12% / 13%)	$8 / $34
Wyoming (Mar. 24)	76 / 105 (72%)	71,689 / 118,293 (61%)	20 / 30,083 (26% / 42%)	29 / 46,604 (28% / 39%)	$46 / $187
Total	**186 / 274 (68%)**	**134,034 / 262,607 (51%)**	**53 / 61,877 (28% / 46%)**	**88 / 128,573 (32% / 49%)**	

The MLA also requires the Secretary of the Interior to include provisions for lease sales that he/she deems, "necessary to insure the sale of the production of such leased lands to the United States and to the public at reasonable prices, for the protection of the interests of the United States, for the prevention of monopoly, and for the safeguarding of the public welfare."[36] 30 U.S.C. § 187. Further, the MLA provides for the Secretary to issue rules "for the prevention of undue waste". 30 U.S.C. § 187. A recent New York University School of Law report also notes that the legislative history of MLA reveals that Congress was concerned with the waste of oil and gas. In *Boesche v. Udall*, the Supreme Court observed, "The committee reports reveal that one of the main congressional concerns was the prevention of an overly rapid consumption of oil resources that the Government, particularly the Navy, might need in the future. . . . Conservation through control was the dominant theme of the debates." 373 U.S. 472, 481 (1963) (citing H.R. Rep. No. 206, 65th Cong., 2d Sess. 5; H.R. Rep. No. 398, 66th Cong., 1st Sess. 12-13).

Considering an alternative that would defer leasing would also be fiscally responsible because leases in low potential areas generate minimal to no revenue but can carry significant cost in terms of resource use conflicts. Leases in low potential areas are most likely to be sold at or near the minimum bid of $2/acre, or non-competitively, and they are least likely to actually produce oil or gas and generate royalties.

Besides being wasteful and contrary to the MLA's purpose, the ongoing leasing of lands with little or no potential creates another related problem: it facilitates, and perhaps even encourages, below-market, speculative leasing by industry actors who do not actually intend to develop the public lands they lease. This problem creates more administrative waste, and also fails to uphold the MLA's core purpose by leading to many parcels being available for noncompetitive lease sales – sales that do not enjoy the benefits of market forces, and which rarely result in productive development, depriving the public of bonus bids and royalties. The speculative nature of noncompetitive leasing – and the administrative waste it creates – is evident from a common outcome in noncompetitive leasing: termination for non-payment of rent. A review of

[36] New York University School of Law; Institute for Policy Integrity, *Look Before You Lease; Reducing Fossil Fuel Dominance on Public Lands by Accounting for Option Value* at 6 (2020).

noncompetitive leases shows that BLM frequently terminates these leases because the lessee stops paying rent.

It is well within BLM's authority to consider the benefit of deferring parcels for leasing and BLM should do so in preparation of this RMP Amendment.

IX. WATER RESOURCES

A. Water Supply

Groundwater is the primary source of municipal, industrial, Tribal, and agricultural water in the analysis area. *See* 2020 Affected Environment Supplemental Report p. AE-32; *see also* Draft RMPA 3-46. Groundwater is currently the only source of water for many of the Navajo Nation Chapters. *Id.* at 3-46. Within the planning area, the demand for potable water has been increasing and is expected to continue to increase, while supply will continue to decrease. *Id.*

Energy development, particularly hydraulic fracturing, consumes large volumes of freshwater that primarily comes from groundwater sources. *See* Draft RMPA, Apx. I-27. The Draft RMPA/EIS estimates the vast majority of wells in the region will be horizontally drilled, which requires more water than vertical wells. *Id.* Additionally, estimated water use may increase dramatically if slickwater hydraulic fracturing technology becomes more commonly used in oil and gas development, although slickwater fracturing may use saline or non-potable water. *See* Draft RMPA 3-36.

The majority of the oil and gas development in the Farmington Field Office is expected to occur in Rio Arriba County. *Id.* at I-20. Within Rio Arriba County, Sandoval County and McKinley County, 100% of the water used for mining activities comes from groundwater (437 Acre Feet fresh and 1,244 Acre Feet saline in Rio Arriba and 1,065 Acre Feet fresh and 247 Acre Feet saline in Sandoval). *Id.* at I-22, I-23. In San Juan County, water use for oil and gas activities comes 43% from surface water and 57% from groundwater. *Id.* at I-22. While some of the groundwater used comes from saline sources, the majority comes from fresh groundwater sources. *Id.* at 3-46.

According to the Affected Environment Supplemental Report, "it is estimated that hydraulically fracturing the wells projected in the next 20 years under current management will require up to 2.5 billion gallons of water." *Id.* AE-34. "The mean water volume for fracturing horizontal wells in the San Juan Basin was 1,020,000 gallons per well. *Id., citing* Kelley, S., et al., 2014, Hydrologic Assessment of Oil and Gas Resource Development of the Mancos Shale in the San Juan Basin, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open File Report 566.

The Draft RMPA/EIS estimates that "[t]he mean water volume for fracturing horizontal wells in the San Juan Basin was 1,020,000 gallons per well. *Id.* However, the 2019 BLM New Mexico Water Support Document finds that recent information "has indicated water use is higher" in the San Juan Basin. *See* Draft RMPA, Apx. I-27. Due to this uncertainty, in compiling the 2019 BLM New Mexico Water Support Document, the agency utilized data from FracFocus, "a national hydraulic fracturing chemical registry managed by the Ground Water Protection Council and Interstate Oil and Gas Compact Commission to provide objective information on hydraulic fracturing." *Id.* As a result, BLM revised the projected water use to be 4.84 AF (1,577,119 gallons) per horizontal well and 0.537 AF (174,981 gallons) per vertical well. *See* Draft RMPA, Apx. I-28.

When calculating differences based on the RFDS's estimated 2,300 horizontal wells and 900 vertical wells that are expected to be drilled in the planning area by 2037, the estimated gallons of water used per well is drastically higher than the Draft RMPA/EIS's estimated 60 million barrels (2.5 billion gallons) over the next 20 years. *Id.* at I-2; *see also* Table 3-8 of the 2019 BLM New Mexico Water Support Document, available in the Draft RMPA's Appendix I.

When calculating the total water use over the life of the plan (2018-2037), this change is significant. As the table above demonstrates, the RFDS estimates 7,683 AF (2.5 billion gallons) over the next 20 years. The more accurate estimate, per FracFocus, is 11,615 AF (3.78 billion gallons). The difference between these two estimates amounts to 1.28 billion gallons of water over the next 20 years, or 64 million gallons of water per year. In other words, BLM underestimated the amount of cumulative water use in the plan by over 1 billion gallons. This increase is significant and more than a "mere[] flyspeck." *See Utahns for Better Transp. V. U.S. Dep't of Transp.*, 305 F.3d 1152, 1163 (10th Cir. 2002); *see also* Draft RMPA at Apx. I-9. The 10th Circuit has previously determined that this type of miscalculation is sufficient reasoning to conclude BLM failed to adequately consider cumulative impacts to leasing. *See Diné Citizens Against Ruining Our Environment et al. v. Bernhardt,* 923 F.3d 831 (10th Cir. 2019).

Furthermore, while the Draft RMPA/EIS spends a significant portion of Appendix I quantifying the estimated use of water under the proposed plan, the agencies fail to analyze the impacts of this use to nearby communities and natural resources within the semi-arid planning area. BLM punts this analysis by using dismissive language such as "[i]mpacts from fluid mineral exploration and development on . . . agency lands *may* result in additional disturbance and water use," and, "cumulative impacts on water resources *could* increase over time." *See* Draft RMPA 3-59. This analysis fails to recognize the tangible connection between water use for energy development and depleting supplies of potable water for nearby communities. The Draft RMPA mentions "restrictive measures would protect water resources and minimize the potential for degrading water resource conditions, water quality, and water supplies." *Id.* However, there is no robust analysis to determine if these measures are expected to truly be effective in protecting the area's water supply and water resources.

Climate change is expected to exacerbate issues related to water use and supply. The Draft RMPA/EIS acknowledges that climate change impacts "could have long-term impacts on stream flows, snowpack, and groundwater recharge." *See* Draft RMPA 3-46. Examples of climate impacts that may reduce groundwater recharge are "increased frequency of wildfires, increased evaporation, changes in vegetation patterns, increased erosion, and diminished snowpack." *Id., citing* Tres Rios RMP (cited as BLM 2015b in the Draft RMPA). The combined impacts from climate change and proposed land uses in the area will result in a decrease in overall conditions of water availability and quality in the area, thereby also decreasing the resiliency and habitat of many wildlife. Riparian areas are expected to be significantly impacted by warming and a decrease in average annual precipitation, which will cause seasonal peak flows to occur earlier and snowpack to be reduced. Given that nearby rivers are recharged, in part, by nearby aquifers, decreased precipitation and subsequent pumping for irrigation, domestic use, and energy development reduces the water table, which then results in decreased flow to interconnected river systems.

Increased and sustained development in the region will strain already depleting resources of potable groundwater in the planning area, impacting nearby residents as well as wildlife and riparian systems. In addition to groundwater, the use of surface water from watersheds is "an irretrievable commitment of water that would have otherwise contributed to major river systems, including the Colorado River." *See* Draft RMPA 3-241. The extent of strain on water resources from

proposed development will undoubtedly impact domestic water supplies in the region. The connection of depleting water supply and use of water for energy development constitutes "individually minor but collectively significant actions taking place over a long period of time." *See* 40 C.F.R. 1508.7. In essence, this situation is precisely the type of scenario that should be covered under NEPA's cumulative impacts analysis.

The Draft RMPA/EIS 1) fails to adequately quantify the amount of water used under the life of the RMP and 2) analyze cumulative climate impacts to the region's water supply from energy development activities. As such, BLM fails to take the "hard look" NEPA requires.

B. Water Quality

Oil and gas development in this area has the potential to severely damage the water quality in this region. BLM has significant legal obligation for safe operations and adequate protection of surface resources, groundwater, and other environmental components. *Id.* at 3-44. BLM acknowledges that Tribes "have expressed concerns about potential degradation of aquifers in the vicinity of the planning area." *See* Draft RMPA 3-45. BLM and BIA must cooperate with Tribal, state, and local governments to implement various laws and regulations relevant to groundwater pollution control. *Id.*

For example, Section 19.15.16 of the New Mexico Administrative Code outlines regulations for drilling, casing and cementing, completion, and plugging to protect freshwater zones. *See* Draft RMPA, Apx. I-38, *citing* 19.15.16 NMAC. BLM must comply with these regulations, which require producers and regulators to verify the integrity of casing and cement jobs. *Id.* 3-43; 43 CFR 3162.3-3(e)(i). Additionally, BLM has the authority to require an operator to monitor water resources to ensure that the isolation procedures used to protect water and other resources are effective. *See id*.3162.5-2. It is necessary for BLM to exercise this authority throughout the Draft RMPA/EIS and future implementation.

Additionally, BLM and BIA are required to comply with Navajo Nation's Surface Water Quality Standards and the Navajo Clean Water Act.[37] Section 201 of the standards outlines an "Antidegradation policy" that specifies "existing designated uses and the level of water quality necessary to protect existing designated uses shall be maintained and protected." *Id.* Access to safe drinking water qualifies as an "existing designated use," and, thus, must be maintained and protected. *Id.* Additionally, Navajo Nation's water quality standards specify that "high quality waters" such as "waters of National parks and monuments, . . . and other waters of exceptional recreational, cultural or ecological significance" must be maintained and protected. *Id.* Further, all waters of the Navajo Nation must be "free from pollutants in amounts or in combinations that: cause injury to, are toxic to, or otherwise adversely affect human health, public safety, or public welfare[; and] [c]ause injury to, are toxic to, or otherwise adversely affect . . . aquatic plant and animal communities." *Id.* Section 202 note that "pollutant" includes petroleum, crude oil, oil refuse, sludge, and oil mixed with wastes. *Id.*

While groundwater quality has been improving recently, oil and gas development and production is likely to affect water quality. *See* Draft RMPA 3-47. Hydraulic fracturing relies on the use of chemicals known to impact and cause long-term harms to organs and body systems and is associated with elevated concentrations of health-damaging air pollutants such as VOCs, aromatic hydrocarbons, particulate matter, and ground level ozone. Courts have found irreparable harm on

[37] *See* https://www.epa.gov/sites/production/files/2014-12/documents/navajo-tribe.pdf.

the natural environment by continued and future horizontal drilling and hydraulic fracturing. *See Diné Citizens v. Bernhardt,* No. 18-2089 (10th Cir. 2019) (finding stated impacts from oil and gas development in the Mancos Sale APD authorizations were sufficient to show an increased risk of environmental harm.); *see also* San Luis Valley Ecosystem Council v. U.S. Fish & Wildlife Serv., 657 F.Supp.2d 1233, 1240 (D. Colo. 2009) (court found irreparable harm from drilling two exploratory oil and gas wells because such development would threaten the community's water and other natural resources). Direct, indirect, and cumulative impacts to water quality impacting nearby communities and the planning area's natural resources must be adequately considered throughout the Draft RMPA/EIS.

The Draft RMPA/EIS should also include mitigation measures to limit health impacts. These mitigation measures should be imposed through lease stipulations, COAs, and BMPs to limit impacts to groundwater quantity and quality. BMPs include requiring non-waivable lease stipulations to protect resources including wildlife habitat, water quality, and wilderness characteristics. Additionally, BLM and BIA can develop more extensive outreach campaign to provide technical and environmental health information directly to communities with low-income and indigenous populations or to local agencies and representative groups. Key information would include the extent of any likely impact on drinking water supplies, air quality, subsistence resources, and the relevant preventative measures that may be taken.

X. OTHER CONCERNS

In the Draft RMPA/EIS, BLM fails to consider or address how it will manage future leasing if or when the oil and gas industry develops new extraction technologies that were not contemplated or foreseen during the current planning process.

As described on Chapter 1, p. 1-1, of the Draft RMPA/EIS:

> In 2012, the BLM determined it would produce an EIS to examine changes in oil and gas (O/G) development patterns in the Mancos/Gallup formations, including innovations in horizontal drilling technology and multistage hydraulic fracturing. These innovations in new drilling technology have resulted in additional extraction and associated surface disturbance in what was previously considered a fully developed oil and gas field in portions of the FFO.

In brief, BLM realized as early as 2012 that its 2003 RMP did not adequately consider or analyze potential adverse impacts of horizontal drilling technology and multistage hydraulic fracturing ("fracking"). This admission is quite revealing and raises serious concerns about BLM's future actions under the RMPA/EIS that is under development now. In effect, in 2012 BLM realized the 2003 plan did not adequately analyze the impacts of these "innovative" drilling and extraction techniques. Yet here we are in the year 2020 and BLM has continued to issue leases allowing these "innovative" techniques to be used in the vicinity of irreplaceable cultural sites and other protected resources. Frankly, this is a common shortcoming in every BLM RMP we have reviewed over the past 5+ years; yet it is common for BLM to continue to issue oil and gas leases all across the West based on outdated RMPs that did not contemplate these advancements in extraction technology.

BLM's lack of foresight in the 2003 RMP regarding the possibility of technological advances during the life of the plan is the root cause of why we are in the current situation. Looking ahead, the Draft RMPA/EIS fails to contemplate or address how the FFO would address future innovations in drilling technology, which are likely to occur through advances in petroleum engineering although the

specifics remain to be determined. It would be profoundly foolish for BLM to repeat its 2003 mistake of assuming that fluid mineral extraction techniques will not evolve over the life of the RMPA and potentially create new or unexpected resource impacts and concerns.

To prevent the same thing from happening again, we urge BLM to include a "savings provision" in the RMPA/EIS and in Appendix D: Restrictions Applicable to BLM Mineral Fluid Leasing, which provides that:

> In the event new or innovative fluid mineral extraction techniques are developed that were not contemplated in this RMPA, there will be an automatic moratorium on BLM issuing leases allowing those techniques until such time that potential impacts have been fully evaluated through a proper NEPA review process that includes public comment.

Not sure if this is the best place for this comment; but it did not seem to fit under any other section. This is a recommendation we should include as a major concern and suggested fix.

XI. CONCLUSION

Thank you for the opportunity to comment on the Draft RMPA/EIS. As stated above, we believe BLM must pause the planning process because of the inability to safely provide the public and tribal communities with meaningful opportunities to engage in this important planning process. We further believe that a supplemental EIS is warranted, in part because the congressionally-funded cultural resources study of the Greater Chaco Landscape has yet to advance beyond the planning phase. Finally, we continue to support closing federal lands and minerals at a minimum within ten miles of Chaco Culture NHP.

Sincerely,

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