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Western Environmental Law Center

November 19, 2014

Sent via Overnight Federal Express Delivery

Jesse Juen, New Mexico State Director
U.S. Bureau of Land Management
New Mexico State Office
301 Dinosaur Trail
Santa Fe, New Mexico 87508

**Re: PROTEST: DOI-BLM-NM-F010-2014-0227-EA
Farmington Field Office, January 2015 Oil and Gas Lease Sale**

Dear State Director Juen:

The Western Environmental Law Center, along with Amigos Bravos, Chaco Alliance, Earthworks, Natural Resources Defense Council, Rio Arriba Concerned Citizens, San Juan Citizens Alliance, and WildEarth Guardians (together "Conservation Groups"), submit the following Protest regarding the Bureau of Land Management ("BLM") Farmington Field Office ("FFO") Environmental Assessment ("EA") and unsigned Finding of No Significant Impact ("FONSI") for the January 2015 Oil and Gas Lease Sale, which includes a Proposed Action to sell 5 parcels covering 2,802 acres of Federal mineral estate under standard terms, conditions, and lease stipulations. These 5 parcels are all on Navajo Allotment lands, with a federal mineral estate administered by the FFO. These parcels were originally included amongst parcels in the FFO's October 2014 lease sale, DOI-BLM-NM-F010-0154-EA, but were "deferred until after the FFO Mancos Shale/Gallup Formation RMPA/EIS alternatives have been developed." Oct. 2014 Lease Sale EA at 14. While the Mancos RMP remains incomplete, the FFO has nevertheless chosen to move forward with the sale of these parcels.

Because the Mancos RMP remains incomplete, the applicable land use plan for this action is the 2003 Farmington RMP, with "the analysis of projected surface disturbance impacts ... based on well densities listed in the Reasonable Foreseeable Development ("RFD") Scenario included in the 2003 Farmington RMP." EA at 4. However, as will be explained in further detail, reliance on the 2003 RMP and RFD fails to demonstrate that impacts associated with the proposed leasing will not be significant, or that leasing will otherwise sufficiently protect resources in the FFO. This is due to the fact that, by the BLM's own admission, the RMP and RFD do not account for the environmental impacts of horizontal drilling and development of Mancos shale. Yet by leasing these parcels, the BLM is poised to facilitate just this kind of

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unforeseen development, despite any analysis as to the actual environmental impacts on both project and programmatic level.

INTEREST OF PROTESTING PARTIES

The **Western Environmental Law Center** (“WELC”) uses the power of the law to defend and protect the American West’s treasured landscapes, iconic wildlife and rural communities. WELC combines legal skills with sound conservation biology and environmental science to address major environmental issues in the West in the most strategic and effective manner. WELC works at the national, regional, state, and local levels; and in all three branches of government. WELC integrates national policies and regional perspective with the local knowledge of our 100+ partner groups to implement smart and appropriate place-based actions.

Amigos Bravos is a statewide river conservation organization guided by social justice principles. Amigos Bravos’ mission is to protect and restore the waters of New Mexico, and ensure that those waters provide a reliable source of clean water to the communities and farmers that depend on them, as well as a safe place to swim, fish, and go boating. Amigos Bravos works locally, statewide, and nationally to ensure that the waters of New Mexico are protected by the best policy and regulations possible.

The **Chaco Alliance** is a grassroots citizens group dedicated to protecting and preserving Chaco Culture National Historical Park. We are interested in all threats to the park and its surrounding landscape, especially the threat created by energy development in the area.

Earthworks is a nonprofit organization dedicated to protecting communities and the environment from the adverse impacts of mineral and energy development while promoting sustainable solutions. Earthworks stands for clean air, water and land, healthy communities, and corporate accountability. We work for solutions that protect both the Earth’s resources and our communities.

The **Natural Resources Defense Council** (“NRDC”) is a non-profit environmental membership organization with more than 440,000 members throughout the United States. Approximately 5,000 of these members reside in New Mexico. NRDC members use and enjoy public lands in New Mexico, including lands managed by the Bureau of Land Management within the Farmington Field Office planning area. NRDC members use and enjoy these lands for a variety of purposes, including: recreation, solitude, scientific study, and conservation of natural resources. NRDC has had a longstanding and active interest in the protection of public lands in New Mexico, the responsible development of oil and gas resources, and the protection of public health from environmental threats.

Rio Arriba Concerned Citizens (“RACC”) is a grassroots community outreach group in central Rio Arriba County that converged over concerns that BLM public outreach was not reaching Abiquiu community and other potentially affected communities in watershed where oil and gas leases have potentially serious adverse impacts. RACC’s mission is to support and focus concerns, actions and outreach related to the quality and use of land, air, and water resources in Rio Arriba County and the State of New Mexico while maintaining consideration and respect for

the preservation of traditional cultural values and consistent with sustainable economic development. RACC's goals are to protect the Rio Chama watershed from potential damage from current and future energy resource development; promote research, education, and outreach related to the potential impacts of energy resource development in the Frontier District of Rio Arriba and the State of New Mexico; and work with local government to amend the existing oil and gas ordinances in Rio Arriba County.

Founded in 1986, **San Juan Citizens Alliance** ("SJCA") organizes people to protect our water and air, our lands, and the character of our rural communities in the San Juan Basin. SJCA focuses on four program areas, including the *San Juan Basin Energy Reform Campaign*, which ensures proper regulation and enforcement of the oil, gas, and coal industry and transitioning to a renewable energy economy. SJCA has been active in BLM and National Forest oil and gas issues in the San Juan Basin since the early 1990s, and has commented on virtually every multi-well drilling program, lease sale, and programmatic environmental review conducted in the region by the federal land management agencies since the early 1990s. SJCA's members live, work, and recreate throughout the San Juan Basin and San Juan Mountains. SJCA's members' health, use and enjoyment of this region is directly impacted by the decisions identified in this protest.

WildEarth Guardians protects and restores wildlife, wild places, wild rivers, and the health of the American West. As part of its Climate and Energy Program, Guardians works to advance clean energy and expose the true cost of fossil fuels. Guardians works to protect and restore the San Juan Basin in northwestern New Mexico in order to safeguard its cultural heritage, natural values, communities, and open spaces.

Conservation Groups' protest the inclusion of all 5 parcels to be offered in the January 2015 lease sale, as identified below by Lease Parcel #:

NM-201501-001; NM-201501-002; NM-201501-003; NM-201501-004; and NM-201501-005.

Conservation Groups' Protest is focused on potential impacts to the planning area from oil and gas development authorized by BLM action, and are specifically concerned with impacts to air quality, greenhouse gas ("GHG") emissions and waste, water resources, human communities and cultural resources, as well as other land use values in the planning area. Conservation Groups find it particularly troubling that, despite our extensive comments outlining deficiencies with the preliminary EA and the agency's failure to take a hard look at site-specific impacts, the "final" EA mirrors this draft virtually word for word. Accordingly, our Protest reiterates many of the same concerns expressed in our earlier comments.

As identified by the agency, "[t]he parcels and applicable stipulations were originally posed online for a two week public scoping period starting on March 10, 2014." EA at 3. Accordingly, Conservation Groups include the Scoping Comments and Exhibits submitted to the agency during this period, on March 24, 2014 (hereinafter "Scoping Comments" and "Scoping Exhibit") (attached as Exhibit A), as well as Comments and Exhibits on BLM's preliminary EA and unsigned FONSI, submitted September 23, 2014 (hereinafter "Draft EA Comments" and "Draft EA Exhibits") (attached as Exhibit B). We are also incorporating the Scoping Comments and Exhibits submitted for the FFO's pending Resource Management Plan Amendment

(hereinafter “Mancos Shale RMP Scoping Comments”) (attached as Exhibit C), dated May 28, 2014.

These incorporated comments and exhibits offer detailed technical information, expert reports, and legal analysis that the agency is required to consider in its decisionmaking process for the proposed action. *See Forest Guardians v. U.S. Fish and Wildlife Service*, 611 F.3d 692, 717 (10th Cir. 2010) (“The purpose behind NEPA is to ensure that the agency will only reach a decision on a proposed action after carefully considering the environmental impacts of several alternative courses of action and *after taking public comment into account*.”). While the EA acknowledges the agency’s duty to consider public comment, and identifies issues raised in scoping that are relevant to the analysis, EA at 5, the agency’s scant EA is altogether devoid of the type of hard look analysis required under the National Environmental Policy Act (“NEPA”), 42 U.S.C. § 4321 *et seq.* *See Morris v. U.S. Nuclear Regulatory Commission*, 598 F.3d 677, 681 (10th Cir. 2010) (NEPA “requires ... that an agency give a ‘hard look’ to the environmental impact of any project or action it authorizes.”). Instead, the agency broadly assumes that “[t]he act of leasing the parcel would, by itself, have no impact on any resources in the FFO. All impacts would be linked to as yet undetermined future levels of lease development.” EA at 37. In fact, the agency’s decision to forego sufficient NEPA analysis until the application for permit to drill (“ADP”) stage is in direct violation of Tenth Circuit’s mandate requiring the agency to analyze site-specific impacts prior to leasing, as detailed below. *See New Mexico ex rel. Richardson v. Bureau of Land Management*, 565 F.3d 683, 717-18 (10th Cir. 2009). The FFO’s shell-game approach—lease first and analyze later—cannot be sustained and fails to satisfy the agency’s mandate under NEPA and its implementing regulations, as detailed herein. Critically, the vast majority of FFO’s EA for the January 2015 sale—and all relevant “analysis” of issues—is literally a cut and paste of the already generic language used in the October 2014 lease sale EA, further underscoring the insufficiency of this EA.

STATEMENT OF REASONS IN SUPPORT OF CONSERVATION GROUPS’ PROTEST OF BLM’S JANUARY 2015 COMPETITIVE OIL AND GAS LEASE SALE:

I. The BLM Cannot Lease the Subject Parcels while the Mancos Shale/Gallup Formation RMP and EIS Remains Uncompleted.

As provided in Scoping Comments—and implicitly recognized by the agency’s original decision to defer all the allotment parcels from the October 2014 lease sale—it is unlawful for the agency to move forward with the sale of oil and gas resources while work on the required Resource Management Plan Amendment (“RMPA”) and environmental impact statement (“EIS”) for the Mancos Shale/Gallup Formation (hereinafter “Mancos Shale RMP”) is underway. *See* 40 C.F.R. § 1506.1(c). Specifically, the agency stated that allotment parcels—including the 5 parcels offered here—were being “deferred until after the FFO Mancos Shale/Gallup Formation RMPA/EIS alternatives have been developed.” Oct. 2014 Lease Sale EA at 14. This decision is consistent with the agency’s duty under NEPA “to stop actions that adversely impact the environment, that limit the choice of alternatives for the EIS, or that constitute an ‘irreversible and irretrievable commitment of resources.’” *Conner v. Burford*, 848 F.2d 1441, 1446 (9th Cir. 1988). When an EIS is underway, as here, NEPA regulations established by the Council of

Environmental Quality (“CEQ”) prohibit an agency from taking any actions that could undermine that decision-making process. *See* 40 C.F.R. § 1506.1(c).

The FFO is now attempting to reverse course, and in so doing, violates NEPA. In deciding to proceed with the sale of these 5 parcels, the agency now claims the parcels were “deferred due to the need for additional Tribal consultation,” and that they “are being reconsidered for sale as the parcels have been recently identified as being drained.” EA at 2. Even if true, this fact does not obviate BLM’s obligations under NEPA. The whole point of NEPA is to study the impact of an action on the environment *before* the action is taken. *See Conner*, 848 F.2d at 1452 (NEPA requires that agencies prepare an EIS before there is “any irreversible and irretrievable commitment of resources”). Where “[i]nterim action prejudices the ultimate decision on the program,” NEPA forbids it. 40 C.F.R. §§ 1506.1(c)(1)-(3). Action prejudices the outcome “when it tends to determine subsequent development or limit alternatives.” *Id.* Proceeding with the sale of these 5 allotment parcels—or any other major Federal action impacting resources in the planning area—is impermissible due to the inherent prejudice that this action will cause to the pending Mancos Shale RMP.

The agency cites regulations at 43 C.F.R. § 3162.2-2 to justify the sale. EA at 3. Critically, however, these regulations provide that where uncompensated drainage of Federal mineral resources may be occurring, offering unleased lands for sale is only one of several options. Other options include: the execution of an agreement under which the United States would be compensated for the drainage; entering into a communitization agreement; or approval of a unit agreement “that provides for payment of a royalty on production attributable to unleased mineral resources.” *See* 43 C.F.R. § 3162.2-2 (b), (c), (d). To suggest, as the agency does here, that offering these lands for lease is the only option to ensure that royalty revenues are not lost is patently incorrect. Indeed, these regulations do not mandate that the agency take any action at all, expressly qualifying every option as a step the agency *may* take. *See id.* Given the agency’s NEPA obligation to avoid prejudice or limit alternatives, 40 C.F.R. § 1506.1(c), as well as myriad other resource concerns identified herein, offering these lands for lease is the one option the agency should have avoided, particularly because of the multiple avenues for the government to recoup royalties from drainage.

As acknowledged in the FFO’s EA: “Once sold, the lease purchaser has the exclusive right to use as much of the leased lands as is necessary to explore and drill oil and gas within the lease boundaries.” EA at 7. Once oil and gas lease rights are conveyed, lessees have a right to drill, and the impact on the environment from the exercise of those rights cannot be undone, which is exactly the situation NEPA disallows—allowing new activity that limits alternatives in the future. For example, once this lease sale is held, the agency will no longer be able to consider an alternative in the Mancos Shale RMP that disallows oil and gas development on these parcels, which the agency’s subsequent analysis may deem as necessary.

Although the FFO consistently asserts that any impacts from the lease sale would be “linked to as yet undetermined future levels of lease development,” it would be entirely disingenuous for the agency to attempt to segregate this lease sale from the “shale oil play” that has motivated the Mancos Shale RMP and RFD Amendment. For one thing, by the BLM’s own admission, the entire purpose of offering the proposed leases for sale is to facilitate their

development in order to address drainage of the Mancos Shale that is occurring from neighboring drilling and production activities. *See* EA at 36. Clearly development of the proposed leases for the purpose of developing the Mancos Shale for oil is not speculative. Indeed, it is the entire purpose for undertaking proposed leasing.

The agency's failure to anticipate the new "oil boom" in the San Juan Basin is precisely why updated planning documents are needed. In fact, BLM's EA admits: "potential full development of the proposed lease sale is estimated at 118 oil wells." EA at 40 (emphasis added)¹. Moreover, the agency admits:

[Oil and gas] development may include constructing a well pad and access road, drilling a well using conventional pit system or closed-loop system, hydraulically fracturing the well, installing pipelines and/or hauling produced fluids, regularly monitoring the well, and competing work-over tasks throughout the life of the well. In Farmington, typically, all of these actions are undertaken during development of an oil or gas well: it is reasonably foreseeable that they may occur on leased parcels.

EA at 12. By the agency's own admission it is foreseeable that the act of leasing these parcels will result in significant levels of development. Moreover, all of these parcels are included in the planning area and reasonably foreseeable development analysis area for the Mancos RMP.² Therefore, proceeding with the leasing of these parcels will prejudice the pending Mancos Shale RMP and EIS process, in direct violation of NEPA.

The potential for foreseeable development is underscored by the fact that the BLM has already approved a number of APDs in the area that authorized the tapping of the Mancos Shale, and is weighing approval of many additional APDs in this area. In spite of the failure of the RMP and RFD to account for horizontal drilling of Mancos Shale, the FFO has in the last year approved numerous APDs authorizing such development. By our measure, nearly 100 wells tapping the Mancos Shale with horizontal drilling have been approved by the BLM. Distressingly, these authorizations expressly relied upon the 2003 RMP and RFD, even in the face of its obvious flaws under NEPA. **To put it simply, these authorizations—as well as any additional leasing of federal minerals—are in violation of FLPMA, the MLA, and NEPA.**

Making matters worse, the FFO has proposed to approve several more APDs to authorize the horizontal drilling and fracking of Mancos Shale. According to the BLM's NEPA log for the Farmington Field Office (available online at:

http://www.blm.gov/pgdata/etc/medialib/blm/nm/programs/planning/nepa_logs0/nepa_logs_201

¹ The identification of "118 oil wells"—rather than the estimated 20 wells drilled on these 5 lease parcels—is one example in the EA of where the agency cut and pasted from the previous EA and failed to provide relevant or project specific analysis.

² *See* BLM, Taos Field Office, *October 2014 Oil and Gas Lease Sale*, available at: http://www.blm.gov/nm/st/en/fo/Taos_Field_Office/tafo_og_sale_october.html.

[4.Par.42933.File.pdf/Farmington_NEPA_Log_2014.pdf](#)), these APDs are being analyzed in the following EAs:³

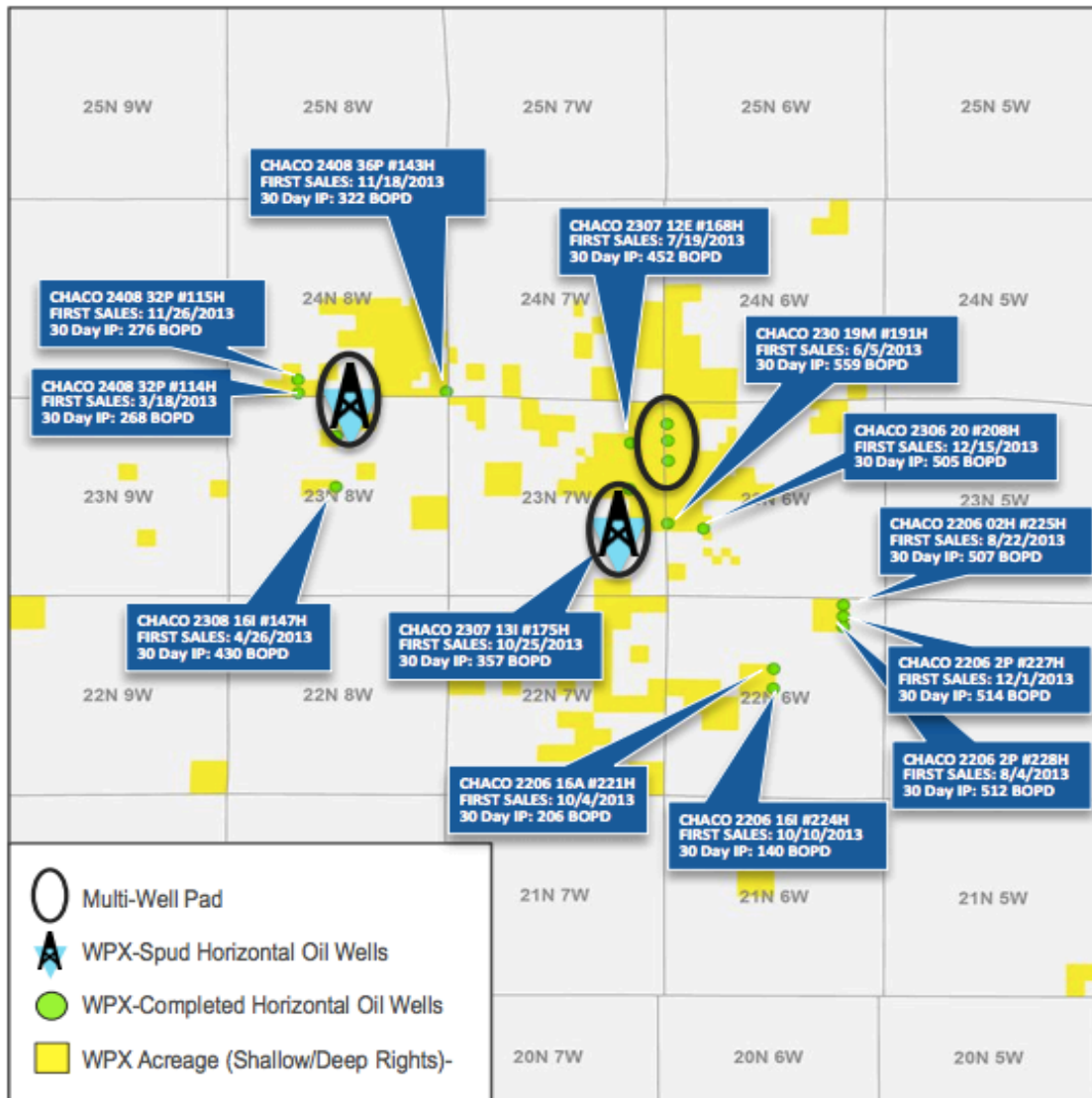
EA No.	Title
F010-2014-0191	Escrito A28-2409 Nos 01H and 02H and Escrito M30-2
F010-2014-0217	Logos Operating, LLC Sarah B 1H, 2H
F010-2014-0246	Chaco 2306-08E Nos. 197H, 198H, 266H, and 267H Oil
F010-2014-0250	Lybrook P28-2307 Well Pad, Access Road, and Pipeli
F010-2014-0254	Chaco 2408-36O Nos. 133H and 134 H Oil and Natura
F010-2014-0265	Escrito F12-2407 No. 01H and Escrito M12-2407 Nos
F010-2012-0268	Encana's Lybrook D22-2206 1H and 2H
F010-2014-0272	Cluster 20 Lybrook E13-2306
F010-2014-0274	Chaco 2408-33D Nos. 112H, 113H, 118H, and 119H

Even the companies themselves are touting their development of the Mancos Shale. According to LOGOS Resources, LLC, the company has successfully drilled and completed over twenty vertical wells and three horizontal Gallup Sandstone wells in the area of the proposed leases. The company says LOGOS plans to continue development and drill over ten horizontal and twenty vertical wells in 2014.⁴ WPX also confirmed in a recent presentation that it has completed and spudded numerous Mancos Shale wells using horizontal drilling in the area of the proposed leases.⁵ The map below, from page 11 of WPX's presentation, illustrates the extent of Mancos shale development in the area so far:

³ Additional EAs for horizontal drilling of the Mancos shale may be under review by the BLM. We hereby request that the BLM consider this letter as providing comments on any outstanding EA being developed by the agency for APDs that would authorize the horizontal drilling of Mancos shale.

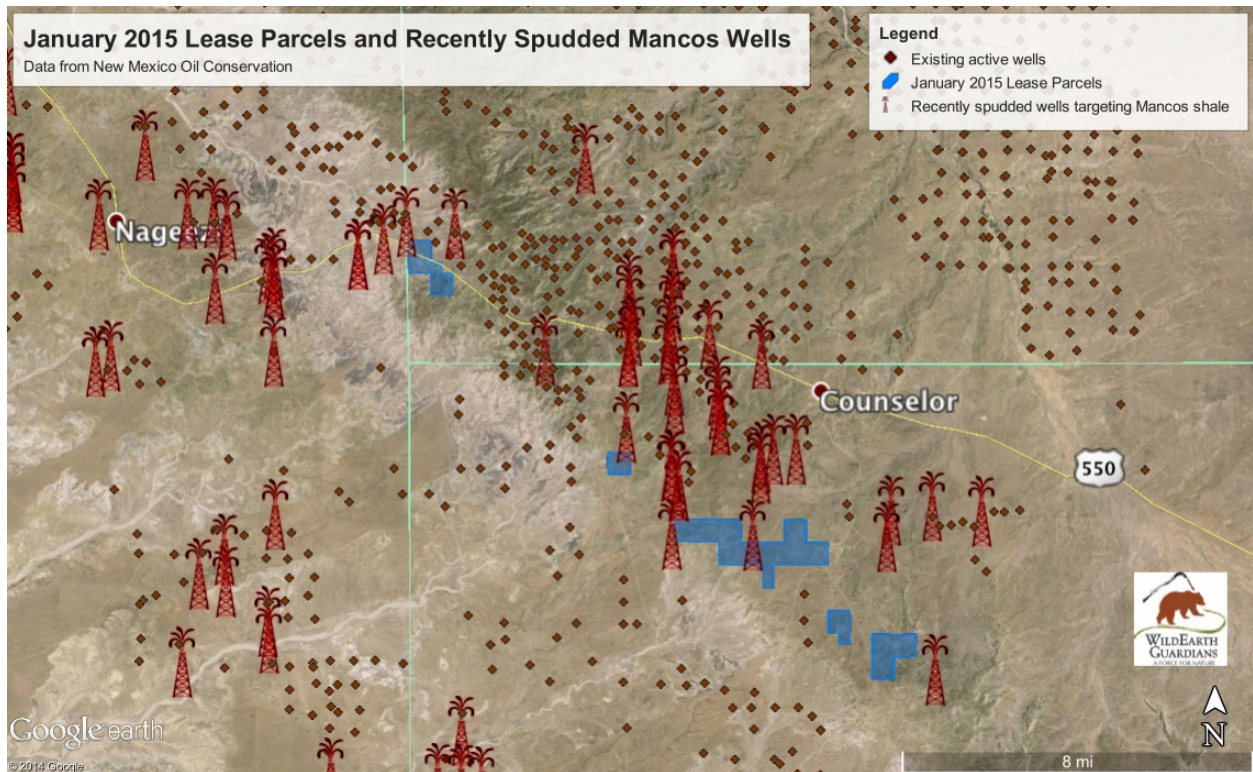
⁴ See LOGOS Resources, LLC, *About LOGOS Operations*, available at: <http://www.logosresourcesllc.com/operations/>.

⁵ See WPX Energy, *Operational update*, available at: http://www.wpxenergy.com/media/YE2013_EarningsPresentation_Final.pdf.



WPX Energy Map of Mancos Shale Development in the Area of the Proposed Leasing.

A simple map of this area prepared by WildEarth Guardians (see following page) confirms that a number of wells that appear to clearly target the Mancos Shale have been drilled in the vicinity of the proposed lease parcels. The map shows the lease parcels in blue and the proximity of wells that have been recently drilled by Encana, WPX, and LOGOS. This map further underscores that development of the proposed leases is not remotely speculative, and that the BLM has the means to fully analyze and assess impacts associated with Mancos Shale drilling.



*Map of Proposed Lease Parcels and Recently Drilled Mancos Shale Wells.
Map prepared using Google Earth using BLM and NMOCD Data.*

Not only do CEQ regulations require a moratorium on any further leasing until the Mancos Shale RMP and EIS are completed, as discussed above, but such a decision is also well within the discretion of the FFO. As provided in BLM Instruction Memorandum No. 2010-117 (May 17, 2010):

As outlined in the Land Use Planning Handbook (H-1601-1), the Resource Management Plan (RMP) underlies fluid minerals leasing decisions. Through RMP effectiveness monitoring and periodic RMP evaluations, state and field offices will examine resource management decisions to determine whether the RMPs adequately protect important resource values in light of changing circumstances, updated policies, and new information (H-1601-1, section V, A, B). The results of such reviews and evaluations may require field office resource information updates and land use plan maintenance, amendment, or revision. In some cases state and field office staff may determine that the public interest would be better served by further analysis and planning prior to making any decision whether or not to lease.

(emphasis added). There can be no better example than the present situation of where the public interest would be better served by completing the Mancos Shale RMP and EIS *before* deciding whether it is appropriate to lease additional public lands. According to BLM oil and gas statistics, there are currently 5,027,750 acres of leased land that is “in effect” in New Mexico; but only approximately 70% of which is in production. *See* BLM, Oil and Gas Statistics by Year

for Fiscal Years 1988–2012 (attached as Scoping Exhibit 120). Indeed, over 90% of available public lands in the FFO have already been leased. Before additional public lands are sold to oil and gas industry and committed to development, the agency must understand the additional impacts of developing the Mancos Shale/Gallup Formation.

II. The BLM Cannot Rely on the 2003 RMP EIS to Justify the Proposed Leasing or a Finding of No Significant Impact

While the FFO is to be commended for acknowledging the inability of the 2003 RMP/EIS and RFD to continue serving their necessary planning function, at the same time, the BLM cannot simultaneously rely on the 2003 RMP/EIS and RFD to justify the January 2015 lease sale. Indeed, BLM's EA explicitly tiers to the analysis contained in the 2003 RMP/EIS, *see* EA at 3-4, which, as explained in the agency's Federal Register Notice for the Mancos Shale RMP, is no longer capable of guiding such decision-making:

As full-field development occurs, especially in the shale oil play, additional impacts may occur that previously were not anticipated in the RFD or analyzed in the current 2003 RMP/EIS, which will require an EIS-level plan amendment and revision of the RFD for complete analysis of the Mancos Shale/Gallup Formation.

79 Fed. Reg. 10548 (Feb. 25, 2014). However, the inability of the current RMP/EIS and RFD to support the proposed leasing, or to provide any reasonable analysis from which to tier, is further underscored by the details of its shortcomings.

The 2003 Farmington RMP never contemplated commercially viable development of the Mancos shale—whether for oil or gas and whether for exploration or full-field production—utilizing horizontal drilling techniques. The Reasonably Foreseeable Development Scenario (“RFD”), which was prepared in 2001 in support of the RMP explicitly stated that:

Horizontal drilling is possible but not currently applied in the San Juan Basin due to poor cost to benefit ratio. If horizontal drilling should prove economically and technically feasible in the future, the next advancement in horizontal well technology could be drilling multi-laterals or hydraulic fracturing horizontal wells. Multilaterals could be one, two or branched laterals in a single formation or single laterals in different formations. Hydraulic fracturing could be a single fracture axial with the horizontal well or multiple fractures perpendicular to the horizontal well. These techniques are currently complex and costly, and therefore typically inappropriate for most onshore U.S. reservoirs. Comprehensive engineering and geologic research will be required in the near future in order for these techniques to become viable within the 20-year time frame anticipated by this RFD.⁶

⁶ BLM, *Oil and Gas Resource Development for the San Juan Basin, New Mexico, a 20-year, Reasonably Foreseeable Development (RFD) Scenario Supporting the Resource Management Plan for the Farmington Field Office, Bureau of Land Management* (July 2, 2001) at 8.3.

In other words, at the time the RFD was prepared and the RMP finalized, horizontal drilling and fracking was not viable.

Although the RFD makes clear that viable shale gas and oil development using horizontal drilling would not occur within 20 years, the RFDS nevertheless contemplated 300 Mancos Shale gas and oil wells, including development and exploration wells. *See* RFD at 5.27. However, the RFD contemplated “behind pipe” access to Mancos Shale reserves through vertically drilled wells into the Dakota formation. RFD at 5.27. In other words, the RFD considered access to the Mancos Shale only as an afterthought to drilling vertical Dakota wells, and certainly did not contemplate horizontally drilled wells into the Mancos Shale. To the extent that the RFD contemplated development only of the Mancos Shale, it was only in a region called the “fractured Mancos oil play” in the southeastern portion of the Basin, which was described only as “probable” development. *Id.* Again, the RFD did not contemplate horizontal drilling, whether for development or exploration. Moreover, the RFD is neither a planning decision pursuant to FLPMA or the MLA, nor an environmental review pursuant to NEPA. That the RFD contemplated limited “behind pipe” access to Mancos Shale reserves does not obviate BLM’s duty to satisfy substantive and procedural planning and management mandates pursuant to FLPMA and NEPA, or to take a hard look at impacts and to consider a range of alternatives pursuant to NEPA, before such development can proceed.

WPX (formerly Williams Production), a major oil and gas producer in the San Juan Basin, has confirmed that the RFDS never contemplated the impacts of horizontal drilling of the Mancos Shale, whether for exploration or development. The company recently stated in its Middle Mesa development proposal that, “[w]hen the [RMP] FEIS was prepared, horizontal drilling had been attempted as an experimental technique in the San Juan Basin, but faced technical problems and not yet been proven economically viable[.]”⁷ BLM has concurred, noting that it was only the recent advancement in horizontal drilling technology that “has made Mancos stand-alone wells economically viable,” explaining:

[A]t the time of the RFD report, horizontal drilling and multi-stage hydraulic fracturing was in its infancy, since then, the technology has evolved to be more efficient and less costly as in the past. Horizontal drilling and multi-stage fracturing is a common practice throughout the U.S. even though the RFD only hinted at its future success and usage.⁸

Here, “hinting” at environmental impacts does not suffice to demonstrate that such impacts were fully analyzed and assessed as required under NEPA or that BLM—whether through the RFD, which is not a NEPA document, or the Farmington RMP’s accompanying EIS—sufficiently considered the impacts of this practice, demonstrated that there would be no significant impacts, or considered alternatives to either prohibit such drilling (i.e., a no action alternative) or to

⁷ Williams Production Co., *Proposal for Rosa Middle Mesa Development* at 3 (attached as Draft EA Exhibit 1).

⁸ BLM, *Unconventional gas reservoirs, hydraulic fracturing, and the Mancos Shale* (Nov. 30, 2011) at 6 (attached as Draft EA Exhibit 2).

manage or mitigate the environmental impacts and ensure the orderly and efficient development of the formation through these drilling techniques. Neither the RFD, the 2003 Farmington RMP, nor the RMPs accompanying EIS demonstrates that the BLM adequately considered timing, pace, location, and full prospective magnitude—in particular cumulative impacts—of Mancos Shale oil or gas development, and, in particular, the horizontal drilling and fracking technologies and associated infrastructure now being used to develop Mancos Shale, in the Farmington Field Office. In light of the shortcomings of the RFD, it is clear that both the RMP and EIS are inadequate under FLPMA, NEPA, and the MLA, and cannot be relied upon to support the leasing of the 5 Navajo Allotment parcels.

Taken together with BLM's clear concession that the current RMP/EIS does not address the latest surge in Mancos Shale development, it is clear that unless and until the RMP Amendment and EIS are completed, there exist no sufficient environmental considerations of horizontal drilling and fracking of the Mancos shale.⁹ To this end, the BLM cannot rely on the 2003 RMP/EIS to support approval of the proposed leases or any determination that impacts will not be significant.

III. The BLM is Required to Prepare an EIS, and Failed to Provide a Convincing Statement of Reasons Why the Lease Sale will Impact the Environment No More than Insignificantly.

As Conservation Groups have consistently maintained, an environmental impact statement ("EIS") must be prepared before the subject parcels can be offered at a BLM oil and gas lease sale. An EIS is required when a major federal action "significantly affects the quality of the human environment." 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1502.4. A federal action "affects" the environment when it "will or *may* have an effect" on the environment. 40 C.F.R. § 1508.3 (emphasis added); *Airport Neighbors Alliance v. U.S.*, 90 F.3d 426, 429 (10th Cir. 1996) ("If the agency determines that its proposed action *may* 'significantly affect' the environment, the agency must prepare a detailed statement on the environmental impact of the proposed action in the form of an EIS.") (emphasis added). Similarly, according to the Ninth Circuit:

We have held that an EIS *must* be prepared if 'substantial questions are raised as to whether a project ... *may* cause significant degradation to some human

⁹ In light of this, we would submit that BLM must presume that the lands proposed for leasing are not "available" due to the failure of the current RMP/EIS to account for the significant impacts of horizontal drilling and fracking of Mancos shale. In this case, the BLM clearly made lands available for leasing based on its understanding of environmental considerations at the time the RMP/EIS was adopted. Given that horizontal drilling and fracking techniques were not accounted for, it would be absurd to believe that the RMP decision made lands available for leasing for the purpose of horizontal drilling of the Mancos shale. Indeed, BLM's Handbook on the issuance of oil and gas leases explicitly states that eligible lands are available for leasing only when all statutory requirements and reviews, "including compliance with the National Environmental Policy act (NEPA) of 1970," have been met. BLM Handbook, H-3101-1, Section I.A.1.

environmental factor.’ To trigger this requirement a ‘plaintiff need not show that significant effects *will in fact occur*,’ [but instead] raising ‘substantial questions whether a project may have a significant effect’ is sufficient.

Idaho Sporting Cong. v. Thomas, 137 F.3d 1146, 1149-50 (9th Cir. 1998) (citations omitted) (emphasis original). Given the magnitude of the proposed action and possible direct, indirect and cumulative impacts to both the natural environment and human communities, BLM’s FONSI is completely unsupportable.

Critically, the FFO has also failed to “put forth a convincing statement of reasons’ that explains why the project will impact the environment no more than insignificantly. This account proves crucial to evaluating whether the [agency] took the requisite ‘hard look.’ ” *Ocean Advoc. v. U.S. Army Corps of Engrs.*, 402 F.3d 846, 864 (9th Cir. 2005). Nowhere in BLM’s EA and unsigned FONSI does there exist a convincing statement explaining the insignificance of impacts from this sale. To the contrary, BLM suggests that any real analysis of impacts can be pushed off until the APD stage—which, as described above, is wholly deficient. If BLM proceeds in its refusal to perform an EIS, it must provide a detailed accounting of each NEPA significance factor, as provided in 40 C.F.R. § 1508.27, explaining why the project will impact the environment no more than insignificantly. Here, the FFO’s FONSI is one paragraph long, and provides:

The impacts of leasing the fluid mineral estate in the areas described with this EA have ben previously analyzed in the 2003 Farmington RMP and 2002 Biological Assessment and the lease stipulations that accompany the tracts proposed for leasing would mitigate the impacts of future development on these tracts.

This vague statement tiering to inoperable planning documents, generic stipulations, and unspecified mitigation measures fails to satisfy the agency’s NEPA mandate. Section 1508.27 significance factors—or any discussion regarding the context and intensity of impacts—is altogether ignored in both the FONSI and throughout the EA.

IV. BLM Impermissibly Relies on Mitigation Measures to Avoid a Finding of Significance.

Although it is possible that “some or all of the environmental consequences of oil and gas development may be mitigated through lease stipulations, it is equally true that the purpose of NEPA is to examine the foreseeable environmental consequences of a range of alternatives *prior* to taking an action that cannot be undone.” *Montana Wilderness Ass’n v. Fry*, 310 F.Supp.2d 1127, 1145 (D.Mont., 2004) (citation omitted) (emphasis added); 40 C.F.R. § 1501.2. “[M]itigation measures, while necessary, are not alone sufficient to meet the [Agency’s] NEPA obligations to determine the projected extent of the environmental harm to enumerated resources *before* a project is approved.” *Northern Plains Resource Council v. Surface Transportation Board*, 668 F.3d 1067, 1085 (9th Cir. 2011) (emphasis in original). Consequently, if BLM discovers significant impacts at the APD stage, it may no longer be able to prevent them.

Here, BLM has relies on future, unspecified and general mitigation to avoid a finding of

significance, in violation of the agency's NEPA mandate. The EA generically offers: "Site specific mitigation measures and Best Management Practices (BMPs) would be attached as Conditions of Approval (COAs) for each proposed exploration and development activity authorized on a lease." EA at 7. Aside from a list of lease stipulations applicable to each parcel, no greater specificity than this is provided anywhere in the EA. Instead, the agency relies on "[s]tandard terms and conditions as well as lease stipulations from the BLM FFO 2003 RMP ... and Lease Notices development through the parcel review and analysis [which] would apply to address site specific concerns or new information not identified in the land use planning process." EA at 7. In other words, these stipulations are not specifically aimed at mitigating any direct, indirect, or cumulative impact from the proposed action, nor are they linked to site-specific concerns on the parcels in question. In fact, the type of detailed mitigation that NEPA calls for would be impossible without first analyzing the site-specific impacts of leasing and development, which the FFO expressly acknowledges has not been done.

The mitigation measures proposed by the agency must be reasonably developed, which, here, is not the case. "A 'perfunctory description,' or 'mere listing of mitigation measures, without supporting analytical data,' is insufficient to support a finding of no significant impact." *National Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 735 (9th Cir. 2001). The court, when determining the sufficiency of the mitigation measures, considers "whether they constitute an adequate buffer against the negative impacts that may result from the authorized activity. Specifically, [the court] examine[s] whether the mitigation measures will render such impacts so minor as to not warrant an EIS." *Id.*; see also, *Hill v. Boy*, 144 F.3d 1446, 1451 (11th Cir.1998) (explaining that where an agency relies on an assumption to reach a FONSI, the assumption must be supported by substantial evidence). Moreover, the proposed mitigation underlying the FONSI "must be more than a possibility" in that it is "imposed by statute or regulation or have been so integrated into the initial proposal that it is impossible to define the proposal without mitigation." *Wyoming Outdoor Council v. U.S. Army Corps of Eng'rs*, 351 F.Supp.2d 1232, 1250 (D.Wyo. 2005). Here, the agency offers nothing more than the statement that site-specific mitigation measures and BMPs would be attached as COAs—and fail to even offer a list what these potential measures might be.

Similarly, with regard to cumulative impacts, the agency must provide *some* explanation of how or why compensatory mitigation will reduce the cumulative adverse impacts on the resources in question to insignificance. Bare assertions of mitigation are insufficient. *O'Reilly v. U.S. Army Corps of Eng'rs*, 477 F.3d 225, 235 (5th Cir.2007) ("[A] bare assertion is simply insufficient to explain *why* the mitigation requirements render the cumulative effects of this project less-than-significant, when considered with the past, present, and foreseeable future development in the project area." (emphasis in the original)). Here, in describing the fluctuating cumulative impacts of oil and gas development, the agency offers generally: "Preserving as much land as possible and applying appropriate mitigation measures will alleviate the cumulative impacts." EA at 51. The FFO offers *nothing* else to address cumulative impacts. This type of vague and conclusory statement is entirely insufficient and fails to meet the FFO's obligations under NEPA.

V. The BLM Failed to Take a "Hard Look" by Predetermining its NEPA Analysis.

As detailed below, NEPA “requires ... that an agency give a ‘hard look’ to the environmental impact of any project or action it authorizes.” *Morris v. U.S. Nuclear Regulatory Commission*, 598 F.3d 677, 681 (10th Cir. 2010). This examination “must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.” *Forest Guardians*, 611 F.3d at 712 (quoting *Metcalf v. Daley*, 214 F.3d 1135, 1142 (9th Cir. 2000)); *see also* 40 C.F.R. § 1502.2(g) (“Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.”); *id.* § 1502.5 (“The statement shall be prepared early enough so that it can serve practically as an important contribution to the decision-making process and will not be used to rationalize or justify decisions already made.”).

By failing to perform the necessary analysis, the agency, in effect, is presupposing that any site-specific impacts from oil and gas development can be mitigated without significant, unacceptable impacts at the APD stage before even knowing what those site-specific impacts are. The agency is also presupposing that oil and gas resources, if developed, outweigh non-oil and gas resources, like wildlife habitat, air quality, water quality protection, and human communities in the planning area.

As soon as BLM issues an oil and gas lease—particularly, as here, when the lease is sold without a no surface occupancy (“NSO”) stipulation covering the entire parcel—that sale confers a guaranteed right to the leaseholder, which includes the right of occupancy. *See* EA at 7 (“Once sold, the lease purchaser has the exclusive right to use as much of the leased lands as is necessary to explore and drill oil and gas within the lease boundaries.”). Without analyzing impacts from the lease sale itself, any subsequent analysis intrinsically shifts from *preventing* impacts (and managing lands for other resource values) to merely *mitigating* impacts (and allowing oil and gas lessees to exercise their surface use rights to the lease at the expense of other resource values). This approach is fundamentally incongruous with NEPA’s mandate. In *Northern Plains* the Ninth Circuit warned: “In a way, reliance on mitigation measures presupposes approval. It assumes that—regardless of what effects construction may have on resources—there are mitigation measures that might counteract the effect without first understanding the extent of the problem. This is inconsistent with what NEPA requires.” *Northern Plains*, 668 F.3d at 1084-85. In the present case, this presupposition is precisely what BLM has done in determining that actual NEPA analysis can wait until some future date while relying on generic lease stipulations and future mitigation to avoid a finding of significance.

BLM, in making this predetermined conclusion, creates an un-level playing field that benefits oil and gas leasing and drilling at the expense of other multiple use resources. There is a long line of cases that warn agencies against making a predetermined decision with respect to NEPA analysis. The Tenth Circuit has cautioned: “[I]f an agency predetermines the NEPA analysis by committing itself to an outcome, the agency likely has failed to take a hard look at the environmental consequences of its actions due to its bias in favor of that outcome and, therefore, has acted arbitrarily and capriciously.” *Forest Guardians*, 611 F.3d at 713 (citing *Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002)). The Tenth Circuit further stated that “[w]e [have] held that ... predetermination [under NEPA] resulted in an environmental analysis that was tainted with bias” and was therefore not in compliance with the statute. *Id.* (citing *Davis*, 302 F.3d at 1112–13, 1118–26)).

While the threshold for finding agency predetermination is high—“occur[ing] only when an agency *irreversibly and irretrievably* commits itself to a plan of action that is dependent upon the NEPA environmental analysis producing a certain outcome, *before* the agency has completed that environmental analysis,” *Forest Guardians*, 611 F.3d at 714 (emphasis in original)—here, BLM’s misguided process has met that threshold. BLM made the express determination that an analysis of impacts is not necessary at the lease sale stage, which guarantees that a FONSI will be issued. That FONSI is based not on any actual analysis of impacts, but rather on the predetermined decision to perform the necessary NEPA analysis at a later stage. Indeed, by not performing any genuine analysis, it is impossible to reach any conclusion other than a FONSI. By playing this shell-game, BLM, at a minimum, creates an improper “inertial presumption” in favor of committing resources to oil and gas development before knowing the site-specific impacts. *Natl. Wildlife Fed. v. Morton*, 393 F.Supp 1286, 1292 (D.D.C. 1975).

By reaching, in effect, a predetermined decision—or at least creating a presumption in favor of oil and gas leasing and development—BLM not only violates NEPA, but also, by elevating development of oil and gas over other multiple use resources, violates the Federal Land Policy Management Act (“FLPMA”). As the Tenth Circuit has explained:

It is past doubt that the principle of multiple use does not require BLM to prioritize development over other uses... 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.

New Mexico ex rel. Richardson, 565 F.3d at 710. BLM’s presupposition of outcome is a direct affront to both NEPA and FLPMA, and cannot be sustained.

VI. The BLM Failed to Take a Hard Look at the Direct, Indirect and Cumulative Impacts of Oil and Gas Leasing and Development.

The National Environmental Policy Act (“NEPA”), 42 U.S.C. § 4321 *et seq.*, and its implementing regulations, promulgated by the Council on Environmental Quality (“CEQ”), 40 C.F.R. §§ 1500.1 *et seq.*, is our “basic national charter for the protection of the environment.” 40 C.F.R. § 1500.1. Recognizing that “each person should enjoy a healthful environment,” NEPA ensures that the federal government uses all practicable means to “assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings,” and to “attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences,” among other policies. 43 U.S.C. § 4331(b).

NEPA regulations explain, in 40 C.F.R. §1500.1(c), that:

Ultimately, of course, it is not better documents but better decisions that count. NEPA’s purpose is not to generate paperwork – even excellent paperwork – but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.

Thus, while “NEPA itself does not mandate particular results, but simply prescribes the necessary process,” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989), agency adherence to NEPA’s action-forcing statutory and regulatory mandates helps federal agencies ensure that they are adhering to NEPA’s noble purpose and policies. *See* 42 U.S.C. §§ 4321, 4331.

NEPA imposes “action forcing procedures ... requir[ing] that agencies take a *hard look* at environmental consequences.” *Methow Valley*, 490 U.S. at 350 (citations omitted) (emphasis added). These “environmental consequences” may be direct, indirect, or cumulative. 40 C.F.R. §§ 1502.16, 1508.7, 1508.8. A cumulative impact—particularly important here—is defined as:

the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions 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.

40 C.F.R. § 1508.7.

Federal agencies determine whether direct, indirect, or cumulative impacts are significant by accounting for both the “context” and “intensity” of those impacts. 40 C.F.R. § 1508.27. Context “means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality” and “varies with the setting of the proposed action.” 40 C.F.R. § 1508.27(a). Intensity “refers to the severity of the impact” and is evaluated according to several additional elements, including, for example: unique characteristics of the geographic area such as ecologically critical areas; the degree to which the effects are likely to be highly controversial; the degree to which the possible effects are highly uncertain or involve unique or unknown risks; and whether the action has cumulatively significant impacts. *Id.* §§ 1508.27(b).

Furthermore, the Federal Land Policy and Management Act (“FLPMA”), 43 U.S.C. § 1701 *et seq.*, directs that “the public lands be managed in a manner that will protect the quality of [critical resource] values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use.” 43 U.S.C. § 1701(a)(8). This substantive mandate requires that the agency not elevate the development of oil and gas resources above other critical resource values in the planning area. To the contrary, FLPMA requires that where oil and gas development would threaten the quality of critical resources, that conservation of these resources should be the preeminent goal. As detailed, below, for several critical resource values in the planning area, the proposed action conflicts with the BLM’s mandate under FLPMA.

A. Because an irretrievable commitment of resources will occur at the lease sale stage, BLM must consider impacts prior to the sale.

BLM has stated its intent to defer NEPA analysis to determine whether significant impacts exist until the APD stage, claiming: “The act of leasing the parcel would, by itself, have no impact on any resources in the FFO. All impacts would be linked to as yet undetermined future levels of lease development.” EA at 37.

BLM has previously relied on *Park County Resource Council v. U.S. Department of Agriculture*, 817 F.2d 609 (10th Cir. 1987), to support its contention that site-specific NEPA analysis is not required until the APD stage. In *Park County*, the Court provided that “*with appropriate lease stipulations* aimed at protecting the environment, lease issuance itself, essentially a paper transaction, does not *usually* require prior preparation of an EIS.” *Park County*, 817 F.2d at 621 (emphasis added). *Park County*, however, does not stand for the proposition—as BLM has implied—that there is a categorical rule exempting BLM from ever performing site-specific analysis at the lease sale stage. Indeed, the Ninth Circuit has consistently held that the sale of oil and gas leases is an irretrievable commitment of resources for which an EIS must be prepared. *See, e.g., Conner v. Burford*, 848 F.2d 1441 (9th Cir.1988); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1227 (9th Cir.1988). Further, *Park County* cannot be understood in a vacuum; as the Tenth Circuit more recently explained:

[T]here is no bright line rule that site-specific analysis may wait until the APD stage. Instead, the inquiry is necessarily contextual. Looking to the standards set out by regulation and by statute, assessment of all ‘reasonably foreseeable’ impacts must occur at the earliest practicable point, and must take place before an ‘irretrievable commitment of resources’ is made. 42 U.S.C. § 4332(2)(C)(v); *Pennaco Energy v. U.S. Dept. of Interior*, 377 F.3d 1147, 1160 (10th Cir. 2004); *Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1072 (9th Cir. 2002); 40 C.F.R. §§ 1501.2, 1502.22. Each of these inquiries is tied to the existing environmental circumstances, not to the formalities of agency procedures. Thus, applying them necessarily requires a fact-specific inquiry.

New Mexico ex rel. Richardson, 565 F.3d at 717-18. The Court has unambiguously stated that “[t]he operative inquiry [is] simply whether all foreseeable impacts of leasing [are] taken into account before leasing [can] proceed.” *Id.* at 717.

Indeed, in *Pennaco Energy*, the Court found: “A plan-level EIS for the area failed to address the possibility of [coal-bed methane (“CBM”)] development, and a later EIS was prepared only after the leasing stage, and thus ‘did not consider whether leases should have been issued in the first place.’” *New Mexico*, 565 F. 3d. at 717 (citing *Pennaco Energy*, 377 F.3d at 1152). Moreover, the Court held that “[b]ecause the issuance of leases gave lessees a right to surface use, the failure to analyze CBM development impacts before the leasing stage foreclosed NEPA analysis from affecting the agency’s decision.” *Id.* (citing *Pennaco Energy*, 377 F.3d at 1160).

Unlike *Park County* where site-specific impacts were difficult to anticipate, here, like in *Pennaco Energy*, the impacts of leasing parcels are reasonably foreseeable—more than 90% of the FFO planning area has already been leased, and expansive oil and gas development has already occurred. Moreover, the agency has identified the reasonably foreseeable impacts of

development stemming from the lease of these parcels, and, after listing specific types of impacts, provides: “In Farmington, typically, all of these actions are undertaken during development of an oil or gas well; it is reasonably foreseeable that they may occur on leased parcels.” EA at 12. Thus, as in *Pennaco Energy*, an EIS assessing the specific effects of oil and gas development from this lease sale is required before leases are conferred to industry.

Moreover, irrespective of BLM’s ultimate conclusion with regard to stipulations, an irretrievable commitment of resources will be conferred at the lease sale stage; oil and gas leases confer “the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold.” 40 C.F.R. § 3101.1-2; *Sierra Club v. Hodel*, 848 F.2d 1068, 1093 (10th Cir. 1988) (agencies are to perform hard look NEPA analysis “before committing themselves irretrievably to a given course of action so that the action can be shaped to account for environmental values”); *see also* EA at n/a (“Once sold, the lease purchaser has the exclusive right to use as much of the leased lands as is necessary to explore and drill oil and gas within the lease boundaries.”).

While each of the 5 Navajo Allotment parcels includes a NSO stipulation limiting development within 660 feet of occupied residences, the remainder of the parcels remain open to development. *See* EA at 8. Regardless, the mere issuance of the lease confers a right to the resources thereunder. Whether through directional drilling or some other method of extraction, the leaseholder has an exercisable interest as soon as the lease is conferred, which it then relies upon in proceeding with its development plan. Therefore, significant environmental impacts, based on those lease rights, may also occur once a lease is issued. Although it is true that “some or all of the environmental consequences of oil and gas development may be mitigated through lease stipulations, it is equally true that the purpose of NEPA is to examine the foreseeable environmental consequences of a range of alternatives *prior* to taking an action that cannot be undone.” *Montana Wilderness Ass’n*, 310 F.Supp.2d at 1145; *see also* 40 C.F.R. § 1501.2.

Here, the BLM refused to perform site-specific analysis at the leasing stage, and, once lease rights are conferred, BLM’s authority will thereafter be limited to imposing mitigation measures consistent with the terms of the lease. Consequently, if BLM discovers significant impacts at the APD stage, it may no longer be able to prevent them. Because BLM is irretrievably committing resources at the lease sale stage, it must consider the impacts of its decision to lease parcels before it can confer public resources to a private developer in a lease—analysis which would be inherently flawed if performed without the benefit of a completed Mancos Shale RMP and EIS.

While the EA purports to evaluate the sale of oil and gas lease parcels which will allow drilling, completion, and production components, the agency also contends that consideration of impacts from development stage activity will actually occur later once APDs are submitted. This is a classic example of segmentation that is prohibited by NEPA.

As NEPA provides, to adequately assess the environmental impacts of a proposed action, BLM must assess three types of actions: (1) connected actions, (2) cumulative actions, and (3) similar actions. 40 C.F.R. § 1508.25. Connected actions “are closely related and therefore should be discussed in the same impact statement. Actions are connected if they: (i) Automatically

trigger other actions which may require environmental impact statements; (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously; (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.” *Id.* Cumulative actions are those actions that “when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement.” *Id.* Similar actions are those actions that “when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography. An agency may wish to analyze these actions in the same impact statement. It should do so when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement.” *Id.*

There are two steps necessary to drill this area: first, BLM’s proposed action to lease the subject parcels, and, second, BLM’s promise of separate NEPA for the review and approval of APDs. The second cannot be accomplished without the first, and the act of drilling does not have independent utility. Instead, they are, for all intents and purposes, interdependent parts of a single action—to drill this area for oil and gas—that has been improperly segmented into two pieces. As detailed above, BLM knows enough about current oil and gas development in the southern San Juan Basin to look at the impacts that will occur if the lease sale occurs and oil and gas development commences. Among those impacts are immense amounts of nitrogen deliveries, the need for extensive storage, the need for ancillary development for oil that does not currently exist, flaring of natural gas and industrial infrastructure delivery development in rural, undeveloped areas, among others.

B. The BLM failed to analyze or take a “hard look” at cumulative impacts of the October 2014 lease sale.

A cumulative impact is the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions 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.” 40 C.F.R. § 1508.7. While BLM includes a “*Cumulative Impacts*” section in their EA, *see* EA at 50-52, BLM fails to actually conduct any cumulative analysis of those impacts. *See Natural Resources Defense Council v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988) (providing that section headings without the “requisite analysis” are insufficient); *see also* 40 C.F.R. § 1508.27(b)(7) (BLM must consider whether the proposed action is related to other actions that together may have cumulatively significant *impacts*. “Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.”).

Here, the FFO’s cumulative impacts analysis is remarkably insufficient. First and foremost, the only resource identified in the cumulative impacts section are air resources—there is no mention, much less analysis, of cumulative impacts to other resource values, including, for example: water resource quantity and quality, landscape resources and habitat, or cumulative impacts to human health, communities or cultural values. This is an area besieged by fossil fuel

development. The FFO has over 23,000 active oil and gas wells, as well as two massive mine-to-mouth coal-fired power plant complexes—the Navajo Mine and Four Corners Power Plant, and the San Juan Mine and San Juan Generating Station. The impact of such development on the area’s air, water, land, and human communities cannot be overstated. Yet, the FFO dismissively provides that “[p]reserving as much land as possible and applying appropriate mitigation measures will alleviate the cumulative impacts.” EA at 51.

There is no effort to identify, much less quantify, the myriad cumulative impacts that this lease sale will contribute to, as noted above. Indeed, such analysis is impossible while the Mancos Shale RMP and RFD remain uncompleted. As defined in the EA: “Cumulative impacts include the combined effect of past projects, specific planned projects and other reasonably foreseeable future actions.” EA at 37 (emphasis added). And, as noted above, additional impacts from the shale oil play “were not anticipated in the RFD or analyzed in the current 2003 RMP/EIS.” 79 Fed. Reg. 10548. Without the benefit of an updated RFD considering this new level of development, by BLM’s own definition it is impossible to sufficiently determine what the cumulative impacts from the January 2014 lease sale might be.

Moreover, while the agency does reference cumulative impacts to air quality, the FFO attempts to satisfy their NEPA obligation for this resource solely by tiering to the Air Resources Technical Report for Oil and Gas Development (“ARTR”). Although the ARTR does broadly describe the air resource conditions and impacts for the New Mexico, Oklahoma, Texas and Kansas region, a document of this scope cannot satisfy the site-specific cumulative impacts to air resources stemming from this lease sale, which is the level of analysis NEPA demands. “Conclusory remarks,” as are consistently provided throughout BLM’s EA, “do not equip a decisionmaker to make an informed decision about alternative courses of action.” *NRDC*, 865 F.2d at 298. “Perfunctory references do not constitute analysis useful to a decisionmaker in deciding whether, or how, to alter the program to lessen cumulative environmental impacts.” *Id.* at 275. BLM’s conclusory treatment of their cumulative impacts analysis fails to meet their hard look requirement under NEPA. *See Morris*, 598 F.3d at 681.

C. The BLM failed to take a “hard look” at impacts to air quality.

The BLM failed to take a hard look at the air quality impacts from oil and gas leasing and development in the planning area, and failed to consider the Conservation Groups detailed Scoping Comments on air quality resources, at 11-15, incorporated herein. 40 C.F.R. § 1506.6.

The FFO’s air resources analysis is tiered to the existing 2003 RMP and EIS, which, as detailed above and functionally admitted by BLM, is no longer capable of guiding agency decision-making. The 2003 RMP/EIS is also fatally flawed specifically with regards to air quality. Indeed, significant new information demonstrates that emissions associated with oil and gas development are significantly higher than what the 2003 Farmington RMP contemplated. According to recent inventory data prepared by the Western Regional Air Partnership (“WRAP”), the 2003 Farmington EIS underestimates emissions of VOCs from oil and gas operations by nearly 30-fold. In 2003, BLM estimated that within 20 years, VOC emissions would amount to 2,008.5 tons/year. According to the most recent WRAP inventory, VOC emissions from oil and gas activities in San Juan and Rio Arriba Counties were estimated to be

nearly 60,000 tons/year in 2006 and projected to be more than 55,000 tons per year by 2012.¹⁰ The table below illustrates this discrepancy between the amount of VOC emissions projected in 2003 and the most recent estimates.

Source of Emission Inventory	VOC Emission Estimate (tons/year)
RMP 20-Year Projection (RMP EIS at J-11)	2,008.5
WRAP Phase III 2006 Inventory for San Juan/Rio Arriba Counties	59,933
WRAP Phase III 2012 Projection for San Juan/Rio Arriba Counties	55,049

This discrepancy is significant because it indicates that BLM cannot reasonably tier to the 2003 RMP/EIS to justify that air quality impacts will not be significant. If anything, BLM must either prepare an EIS to address the air quality impacts of the proposed leases, supplement the 2003 RMP/EIS prior to moving ahead with the proposed leases, or, as discussed above, defer further leasing and development until the Mancos Shale RMP and EIS are completed.

This discrepancy also indicates that the emissions data presented in the EA, which shows dramatically lower VOC emissions in San Juan and Rio Arriba Counties, is flawed. *See* EA at 39. The EA indicates that EPA emission inventory data from 2011 was utilized in reporting overall emissions in San Juan and Rio Arriba Counties. However the EPA's inventory data does not reflect the actual emission inventory data presented by the WRAP as it relies solely on point source inventory data submitted by the New Mexico Environment Department.¹¹ Yet, as the WRAP data indicates, the vast majority of oil and gas-related VOC emissions are non-point source emissions.

In other words, the emissions data BLM presents in the EA fails to accurately account for oil and gas emissions, raising further concerns that the EA is inadequate and fails to justify a finding of no significant impact. BLM must revise the EA and analyze and assess impacts in terms of accurate emissions data for the oil and gas industry. Moreover, the agency admits that additional near-field air quality modeling is needed. The agency states: "Due to the close

¹⁰ *See* ENVIRON, *Final Report: Development of 2012 Oil and Gas Emissions Projections for the South San Juan Basin* (Dec. 2009) (prepared for Western Regional Air Partnership) (attached as Draft EA Exhibit 3); ENVIRON, *Final Report: Development of Baseline 2006 Emissions from Oil and Gas Activity in the South San Juan Basin* (Nov. 2009) (prepared for Western Regional Air Partnership) (attached as Draft EA Exhibit 4).

¹¹ *See* EPA, *2011 National Emissions Inventory, version 1, Technical Support Document DRAFT* (Nov. 2013) at 160, available at:

http://www.epa.gov/ttn/chief/net/2011nei/2011_neiv1_tsd_draft.pdf (attached as Draft EA Exhibit 5).

proximity of occupied buildings and residences to potential well sites on these lease parcels, information about the air quality impacts at these locations needs to be determined and disclosed as part of the NEPA analysis prior to decision making on the APDs for wells on these parcels.” EA at 7. The agency later continues: “At the time of the lease sale, there is still not enough information available about how the lease will be developed to accurately determine the near-field air quality impacts.” EA at 7-8. The agency also admits “Once sold, the lease purchaser has the exclusive right to use as much of the leased lands as is necessary to explore and drill oil and gas within the lease boundaries.” EA at 7. In other words, regardless of what additional modeling tells us about impacts to air quality, once leases are sold, the agency cannot prevent development. This is precisely the type of scenario that NEPA forbids.

The FFO also incorporates in the EA broad technical information related to air resources from the ARTR for New Mexico, Oklahoma, Texas and Kansas, which is too general in scope to sufficiently analyze the site-specific impacts of oil and gas leasing and development from the proposed action. These documents, as well as the agency’s assertion that “leasing the subject tracts would have no direct impacts to air quality[,]” and that “[a]ny potential effects to air quality from the sale of lease parcel would occur at such time that the lease is developed[,]” is the extent of BLM’s analysis of air resources. EA at 38. With no analysis, quantified data, or reference to any of NEPA’s significance factors, 40 C.F.R. § 1508.27, the agency has failed to satisfy their statutory mandate. The BLM’s hard look analysis “must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.” *Forest Guardians*, 611 F.3d at 712. What the agency offers in one-and-a-half pages fails to satisfy this obligation.

The EA also does not actually analyze or assess the impacts of developing the proposed leases to a number of national ambient air quality standards (“NAAQS”). We are especially troubled that the EA fails to analyze the direct, indirect, and cumulative air quality impacts in the context of NAAQS promulgated since the RMP was adopted. These NAAQS include the 1-hour nitrogen dioxide NAAQS (promulgated in 2010), the 1-hour sulfur dioxide NAAQS (also promulgated in 2010), the 8-hour ozone NAAQS (promulgated in 2008), the 24-hour PM_{2.5} NAAQS (promulgated in 2006), and the annual PM_{2.5} NAAQS (promulgated in 2012). We are particularly concerned over the impacts to the 1-hour NO₂ NAAQS given that short-term NO₂ concentrations are linked to near-field, near ground-level emissions, including compressor engines exhaust stacks and other combustion sources. Because the RMP does not analyze or assess impacts to these air quality standards, in particular the NO₂ NAAQS, the EA cannot reasonably tie to the analysis in the 2003 RMP/EIS or otherwise reasonably conclude that the direct, indirect, and cumulative impacts of the proposed leasing will not be significant.

The failure to analyze and assess impacts to air quality is especially hard to understand because the EA acknowledges the relevant NAAQS. *See* EA at Table 2. Yet nowhere in the EA does BLM attempt to analyze what the consequences of developing the proposed leases will be in terms of future air quality concentrations. Although the BLM cites current air quality monitoring data in support of its assertion that impacts to the NAAQS will not be significant, the fact that current monitoring does not indicate the region is violating any NAAQS does not mean that the NAAQS will never be violated. Moreover, the U.S. District Court for the District of Colorado in fact rejected a similar analysis prepared by the BLM in support of an oil and gas

drilling plan in the Roan Plateau area of western Colorado. In that case, the BLM asserted that the lack of ozone violations indicated that future impacts would not be significant. In her ruling, Judge Krieger stated: “The mere fact that the area has not exceeded ozone limits in the past is of no significance when the purpose of the EIS is to attempt to predict what environmental effects are likely to occur in the future[.]” *Colo. Env’tl. Coal. v. Salazar*, 875 F. Supp. 2d 1233, 1257 (D. Colo. 2012). This is particularly relevant here. BLM cites the “current design value of 0.071 ppm” for ozone as “well below the attainment value of 0.075 ppm” to support a conclusion that emissions from the “proposed lease sale are not expected to impact” air quality respective to ozone. EA at 39. However, EPA’s recent policy assessment recommends lowering the ozone standard to between 60 and 70 parts per billion—which, if adopted, would immediately render the planning area in non-attainment for ozone.¹²

Compounding BLM’s failure in the EA to actually analyze and assess air quality impacts is that BLM entirely fails to even address emissions impacts. Although the EA discloses 2008 emission data for the San Juan Basin, there is no actual analysis or assessment as to how emission levels would be affected by development of the proposed leases. Simply disclosing the affected environment does not amount to an analysis or assessment of reasonably foreseeable impacts. Particularly when the BLM asserts that future emissions will not be significant, a lack of any actual analysis of emissions impacts is especially troublesome. The agency further provides generic “encourage[ment]” of industry to “incorporate and implement ‘Best Management Practices’ (BMPs), which are designed to reduce impacts to air quality by reducing emissions, surface disturbances, and dust from field production and operations.” EA at 9. Among the “typical measures” identified by BLM is NTL-4(a), which is, in fact, not an optional BMP but a required measure aimed at venting and flaring of gas on Federal leases. Critically, despite the agency’s “encouragement” of industry, there is no quantification or analysis of these measures, and no analysis of how they will reduce emissions to a level that would be insignificant to air quality.

D. The BLM failed to take a “hard look” at climate change.

The BLM failed to take a hard look at the climate change impacts from oil and gas leasing and development in the planning area, and failed to consider the Conservation Groups detailed Scoping Comments on climate change and GHG emissions, at 15-35, incorporated herein. 40 C.F.R. § 1506.6. As with air quality, the FFO relies on the ARTR to satisfy the agency’s NEPA obligations for climate change and GHG emissions. *See* EA at 39. As noted above, although the ARTR provides a broad overview of oil and gas emissions for a four state region, the document, in isolation, is incapable satisfying the type of site-specific NEPA analysis that is demanded here.

The agency begins with the recognition that “increasing concentrations of GHGs are likely to accelerate the rate of climate change.” EA at 15. Yet, the FFO attempts to avoid performing any actual analysis and consistently ignores its obligation to consider the direct, indirect and cumulative impacts of GHG emissions, in violation of NEPA. 40 C.F.R. §§ 1502.16(a), (b); 1508.25(c). The agency remarkably provides that “GHG emissions from

¹² *See* EPA, *Policy Assessment for the Review of the Ozone National Ambient Air Quality Standard* (August 2014) (attached as Draft EA Exhibit 6).

consumption of oil and gas do not constitute a direct effect that is analyzed under NEPA. Nor is consumption an indirect effect of oil and gas production because production is not a proximate cause of GHG emissions resulting from consumption.” EA at 39. Although the agency concedes that production emissions would be a direct impact, the agency states that “[l]easing the subject tracts under either action alternative would have no direct impacts to climate change as a result of GHG emissions. Any potential effects to air quality from sale of a lease parcel would occur at such time that the lease was developed.” EA at 40. This type of evasive approach is inconsistent with the agency’s obligations under NEPA and CEQ regulations. As noted above, this obfuscation contradicts the agency’s earlier acknowledgment that full-scale oil and gas development “is reasonably foreseeable ... [to] occur on leased parcels,” EA at 12, which would otherwise compel the analysis of these reasonably foreseeable impacts. *See New Mexico ex rel. Richardson*, 565 F.3d at 718 (assessment of all “reasonably foreseeable” impacts must occur at the earliest practicable point). Perhaps more critically, however, is the scientific certainty that if we are to stem the impacts of climate change and manage for sustainable ecosystems, not only must the BLM take a hard look at GHG emissions from the proposed development, but its ultimate decision must be reflective of the challenges we face.

Here, the agency is perpetuating the inertial momentum of climate change by failing to take meaningful action on the site-specific contribution of GHG emissions from the proposed action. Although the agency does quantify the annual carbon dioxide equivalent (“CO₂e”) emissions for the estimated 118 oil wells developed on lease parcels at 11,611 metric tons of CO₂e per year—again, cutting and pasting previous data and failing to update for the present lease parcels—the FFO attempts to diminish the significance of these emissions by comparing them on a scale to total U.S. GHG emissions, total U.S. emissions from oil and gas, and down the line to New Mexico and San Juan Basin GHG emissions from oil and gas.¹³

The only statement of assurance the FFO offers to mitigate these emissions is that “[t]he Field Office will work with industry to facilitate the use of the relevant BMPs for operations proposed on Federal mineral leases where such mitigation is consistent with agency policy.” EA at 42. In other words, there is absolutely *no* commitment by BLM to do anything. Such a dismissive approach fails take these emissions in particular and, more broadly, the impacts climate change, seriously. These emissions contribution to climate change are precisely the type of “[cumulative] impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions” that must be considered by the agency. 40 C.F.R. § 1508.7; *Ctr. for Biological Diversity*, 538 F.3d 1172, 1217. Failure to do so would “impermissibly subject[s] the decisionmaking process contemplated by NEPA to ‘the tyranny of small decisions.’ ” *Kern*, 284 F.3d at 1078 (citation omitted).

a. Social cost of carbon.

¹³ However, San Juan Basin emission estimates are quantified based on 14,995 wells, which is only about 65% of the more than 23,000 current wells recently cited by BLM District Manager, Dave Evens, at a BLM public meeting, which would roughly place emissions at 2,436,126 metric tons of CO₂e per year for the Basin, or the equivalent of 512,869 passenger vehicles.

Research conducted by the National Research Council has confirmed the fact that the negative impacts of energy generation from fossil fuels are not represented in the market price for such generation.¹⁴ In other words, failing to internalize the externalities of energy generation from fossil fuels—such as the impacts to climate change and human health—has resulted in a market failure that requires government intervention. Executive Order 12866 directs federal agencies to assess and quantify such costs and benefits of regulatory action, including the effects on factors such as the economy, environment, and public health and safety, among others. *See* Exec. Order No. 12866, 58 Fed. Reg. 51,735 (Sept. 30, 1993).¹⁵ The Ninth Circuit has ruled that agencies must include the climate benefits of a significant regulatory action in federal cost-benefit analyses to comply with EO 12866.

[T]he fact that climate change is largely a global phenomenon that includes actions that are outside of [the agency's] control ... does not release the agency from the duty of assessing the effects of its actions on global warming within the context of other actions that also affect global warming.

Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1217 (9th Cir. 2008) (quotations and citations omitted); *see also Border Power Plant Working Grp. v. U.S. Dep't of Energy*, 260 F. Supp. 2d 997, 1028-29 (S.D. Cal. 2003) (finding agency failure to disclose project's indirect carbon dioxide emissions violates NEPA).

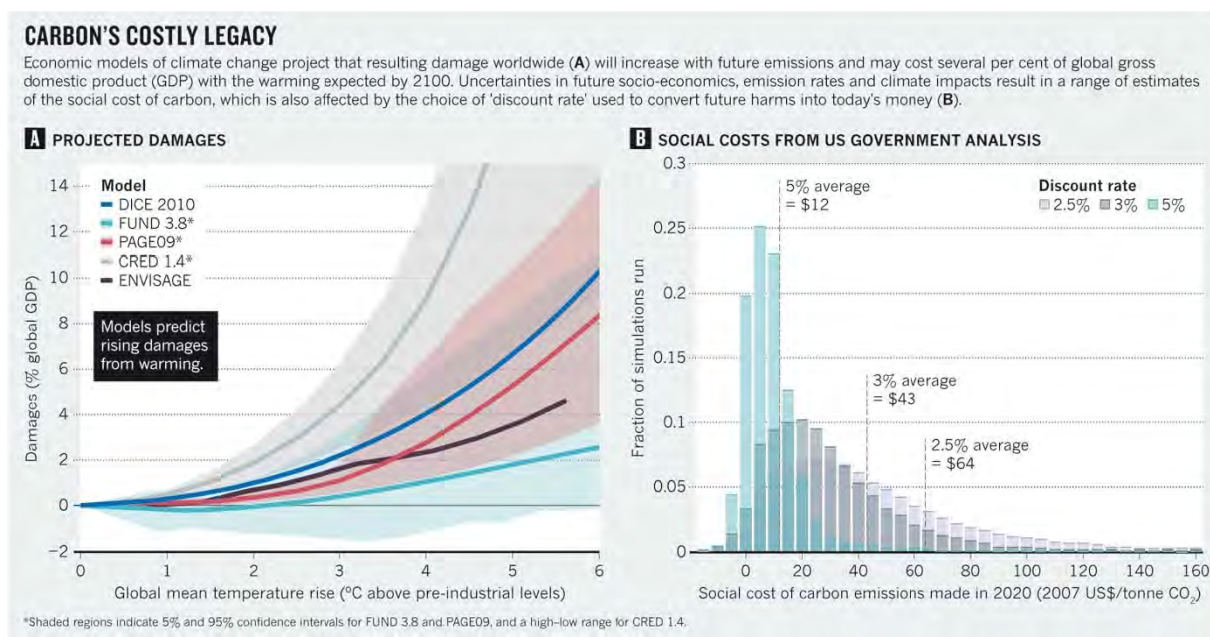
In response, an Interagency Working Group (“IWG”) was formed to develop a consistent and defensible estimate of the social cost of carbon—allowing agencies to “incorporate the social benefits of reducing carbon dioxide (CO₂) emissions into cost-benefit analyses of regulatory actions that impact cumulative global emissions.”¹⁶ In other words, SCC is a measure of the benefit of reducing greenhouse gas emissions now and thereby avoiding

¹⁴ *See, e.g.*, National Research Council, *Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use* (2010) (attached as Scoping Exhibit 40); Nicholas Muller, et. al., *Environmental Accounting for Pollution in the United States Economy*, AMERICAN ECONOMIC REVIEW (Aug. 2011) (attached as Scoping Exhibit 41); *see also*, Generation Investment Management, *Sustainable Capitalism*, (Jan. 2012) (advocating a paradigm shift to “a framework that seeks to maximize long-term economic value creation by reforming markets to address real needs while considering *all* costs and stakeholders.”) (attached as Scoping Exhibit 42).

¹⁵ *See also* Executive Order 13563, 76 Fed. Reg. 3821 (Jan. 18, 2011) (reaffirming the framework of EO 12866 and directing federal agencies to conduct regulatory actions based on the best available science).

¹⁶ *See* Interagency Working Group on the Social Cost of Carbon, United States Government, *Technical Support Document: Technical Update on the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866* (May 2013) at 2 (hereinafter 2013 TSD) (attached as Draft EA Exhibit 7).

costs in the future.¹⁷ The charts below depict, (A) dramatically increasing damages from global warming over time, as well as (B) the social cost of these carbon emissions based on 2013 TDS values.¹⁸



Leading economic models all point in the same direction: that climate change causes substantial economic harm, justifying immediate action to reduce emissions.¹⁹ The interagency process to develop SCC estimates—originally described in the 2010 interagency technical support document (“TSD”), and updated in 2013—developed four values based on the average SCC from three integrated assessment models (DICE, PAGE, and FUND), at discount rates of 2.5, 3, and 5 percent,²⁰ as well as a fourth value demonstrating the cost of worst-case impacts.²¹

¹⁷ See Ruth Greenspan and Dianne Callan, *More than Meets the Eye: The Social Cost of Carbon in U.S Climate Policy, in Plain English*, WORLD RESOURCES INSTITUTE (July 2011) (attached as Draft EA Exhibit 8).

¹⁸ See Richard Revesz, *et al.*, *Global warming: Improve economic models of climate change*, NATURE 508, 173-175 (April 10, 2014) (attached as Draft EA Exhibit 9).

¹⁹ See NATURE 508 at 174.

²⁰ The choice of which discount rate to apply—translating future costs into current dollars—is critical in calculating the social cost of carbon. The higher the discount rate, the less significant future costs become, which shifts a greater burden to future generations based on the notion that the world will be better able to make climate investments in the future. The underlying assumption of applying a higher discount rate is that the economy is continually growing. The IWG’s “central value” of three percent is consistent with this school of thought—that successive generations will be increasingly wealthy and more able to carry the financial burden of climate impacts. “The difficulty with this argument is that, as climate change science becomes increasingly concerning, it becomes a weaker bet that future generations will be better off. If

These models are intended to quantify damages, including health impacts, economic dislocation, agricultural changes, and other effects that climate change can impose on humanity. While these values are inherently speculative, a recent GAO report has confirmed the soundness of the methodology in which the IWG's SCC estimates were developed, therefore further underscoring the importance of integrating SCC analysis into the agency's decisionmaking process.²² In fact, certain types of damages remain either unaccounted for or poorly quantified in IWG's estimates, suggesting that the SCC values are conservative and should be viewed as a lower bound.²³

The updated interagency SCC estimates for 2020 are \$12, \$43, \$65 and \$129 (in 2007\$).²⁴ The IWG does not instruct federal agency which discount rate to use, suggesting that the 3 percent discount rate (\$43 per ton of CO₂) as the "central value," but further emphasizing "the importance and value of including all four SCC values[;]" i.e., that the agency should use the range of values in developing NEPA alternatives.²⁵

The agency's obligation to analyze the costs associated with GHG emissions through NEPA was directly affirmed by the court in *High Country Conservation Advocates v. U.S. Forest Service*, ---F.Supp.2d---, 2014 WL 2922751 (D.Colo. 2014) (a decision the agency decided not to appeal, thus implicitly recognizing the importance of incorporating a social cost of carbon analysis into NEPA decisionmaking). In his decision, Judge Jackson identified the IWG's SSC protocol as a tool to "quantify a project's contribution to costs associated with

they are not, lower or negative discount rates are justified." WRI Report, at 9. "Three percent values an environmental cost or benefit occurring 25 years in the future at about half as much as the same benefit today." *Id.*

²¹ See 2013 TSD at 2.

²² GAO-14-663, *Social Cost of Carbon* (July 24, 2014) (attached as Draft EA Exhibit 10).

²³ See Peter Howard, et al., *Omitted Damages: What's Missing From the Social Cost of Carbon*, ENVIRONMENTAL DEFENSE FUND, INSTITUTE FOR POLICY INTEGRITY, NATURAL RESOURCES DEFENSE COUNCIL (March 13, 2014) (attached as Draft EA Exhibit 11) (providing, for example, that damages such as "increases in forced migration, social and political conflict, and violence; weather variability and extreme weather events; and declining growth rates" are either missing or poorly quantified in SCC models).

²⁴ See 2013 TSD at 3 (including a table of revised SCC estimates from 2010-2050). To put these figures in perspective, in 2009 the British government used a range of \$41-\$124 per ton of CO₂, with a central value of \$85 (during the same period, the 2010 TSD used a central value of \$21). WRI Report at 4. The UK analysis used very different assumptions on damages, including a much lower discount rate of 1.4%. The central value supports regulation four times as stringent as the U.S. central value. *Id.*

²⁵ See 2013 TSD at 12.

global climate change.” *Id.* at 17.²⁶ To fulfill this mandate, the agency must disclose the “ecological[,] ... economic, [and] social” impacts of the proposed action. 40 C.F.R. § 1508.8(b). In contradiction to the findings of the Court, BLM states:

The very small increase in GHG emissions that could result from the approval of the action alternatives would not produce climate change impacts that differ from the No Action Alternative. This is because climate change is a global process that is impacted by the sum total of GHGs in the Earth’s atmosphere. The incremental contribution to the global GHGs from the proposed action cannot be translated into effects on climate change globally or in the area of this site-specific action. It is currently not feasible to predict with certainty the net impacts from the proposed action on global or regional climate.

EA at 51-52. To the contrary, simple calculations applying the SCC to GHG emissions from this project offer a straightforward comparative basis for analyzing impacts, and identifying very significant costs. The agency recognizes that “Total Potential GHG Emissions from Oil & Gas Field Production at Full Development (118 wells)” is 11,611 metric tons of CO₂e. EA at 42. Using the same figures for emissions, but adjusting for 20 wells, results in 1,968 metric tons. Applying the IWG central value of \$43 per ton of CO₂ results in a SCC of \$84,624 for 20 wells.²⁷

Notably, BLM recognizes that “methane has a global warming potential that is 21-25 times greater than the warming potential of CO₂.” EA at 40. As detailed below, these GWP estimates are out-of-date, and therefore significantly underestimate the climate impact of methane. According to the IPCC, the 20-year GWP for methane—which is the relevant timeframe for consideration if we are to stem the worst of climate change—is 86.²⁸ While BLM fails to quantify what percentage of stated GHG emissions from the project are from methane, EPA estimates provide that approximately 97% of emissions from oil production in the San Juan Basin are from methane. *See* EA at 41. Accordingly, if the updated GWP of 86 for methane is applied, emissions of CO₂e from the project increase dramatically, to **7,826 metric tons for the 20 wells, or a SCC of \$336,518.**

²⁶ *See also id.* at 18 (noting the EPA recommendation to “explore other means to characterize the impact of GHG emissions, including an estimate of the ‘social cost of carbon’ associated with potential increases in GHG emissions.”) (citing Sarah E. Light, *NEPA’s Footprint: Information Disclosure as a Quasi-Carbon Tax on Agencies*, 87 Tul. L. Rev. 511, 546 (Feb. 2013)).

²⁷ It is important to note that, although the 2010 IWG SCC protocol did not address methane impacts, the 2013 IWG Technical Update explicitly addresses methane impacts. Thus, it is appropriate to calculate a SCC outcome that takes into account the full CO₂e emissions associated with the proposed leasing.

²⁸ *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Working Group I Contribution to the IPCC Fifth Assessment Report Climate Change 2013: The Physical Science Basis*, at 8-58 (Table 8.7) (Sept. 2013) (attached as Scoping Exhibit 68).

Critically, however, the agency only quantifies the estimated emissions from the projects *production*—rationalizing that “oil and gas leaves the custody and jurisdiction of the BLM after the production phase.” EA at 40. The agency altogether fails to consider the indirect impacts of combustion, as NEPA demands. *See* 40 C.F.R. § 1508.25(c). The agency does recognize, however, that final consumption of oil represents 80% of CO₂e emissions. EA at 41. BLM assumes that an estimated 20 wells drilled on leased parcels would translate to 8,240,00 barrels of oil equivalent (“BOE”) recovered from the leasehold. EA at 36. The EPA provides a conversion factor of 0.43 metric tons of CO₂ per barrel of oil consumed.²⁹ **This results in combustion emissions of 3,543,200 tons of CO₂e, or a SCC of \$152,357,600.**

Instead of considering these costs, the agency attempts to evade the necessary NEPA analysis by erroneously concluding that “[i]t is currently not feasible to predict with certainty the net impacts from the proposed action on global or regional climate” EA at 52. As noted by Judge Jackson, the SCC protocol provides such a tool. *See High Country Conservation Advocates*, 2014 WL 2922751 at 17. By failing to consider the costs of GHG emissions from the Proposed Action, the agency’s analysis effectively assumes a price of carbon that is \$0. *See id.* at 21 (holding that although there is a “wide range of estimates about the social cost of GHG emissions[,] neither the BLM’s economist nor anyone else in the record appears to suggest the cost is as low as \$0 per unit. Yet by deciding not to quantify the costs as all, the agencies effectively zeroed out the cost in its quantitative analysis.”). The agency’s failure to consider the SCC is arbitrary and capricious, and ignores the explicit directive of EO 12866.

An agency must “consider every significant aspect of the environmental impact of a proposed action.” *Baltimore Gas & Elec. Co. v. Natural Resources Defense Council*, 462 U.S. 87, 107 (1983) (quotations and citation omitted). This includes the disclosure of direct, indirect, and cumulative impacts of its actions, including climate change impacts and emissions. 40 C.F.R. § 1508.25(c). The need to evaluate such impacts is bolstered by the fact that “[t]he harms associated with climate change are serious and well recognized,” and environmental changes caused by climate change “have already inflicted significant harms” to many resources around the globe. *Massachusetts v. EPA*, 549 U.S. 497, 521 (2007); *see also id.* at 525 (recognizing “the enormity of the potential consequences associated with manmade climate change.”). Among other things, the agency’s analysis must disclose “the relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity[,]” including the “energy requirements and conservation potential of various alternatives and mitigation measures.” 42 U.S.C. § 4332(c); 40 C.F.R. § 1502.16(e). As explained by CEQ, this requires agencies to “analyze total energy costs, including possible hidden or indirect costs, and total energy benefits of proposed actions.” 43 Fed. Red. 55,978, 55,984 (Nov. 29, 1978); *see also* Executive Order 13514, 74 Fed. Reg. 52,117 (Oct. 5, 2009) (requiring government agencies to disclose emissions information annually from direct and indirect activities). Failing to perform such analysis undermines the agency’s decisionmaking process and the assumptions made.

²⁹ *See* EPA, *Calculations and References*, available at: <http://www.epa.gov/cleanenergy/energy-resources/refs.html>.

Moreover, BLM typically measures a project's GHG emissions against a baseline of national and/or global GHG emissions—thereby marginalizing the Proposed Actions contribution to our climate crisis while concluding the agency is powerless to avoid or mitigate such impacts. Here, the agency provides that “climate change is a global process that is impacted by the sum total of GHGs in the Earth’s atmosphere. The incremental contribution to global GHGs from the proposed action cannot be translated into effects on climate change globally or in the area of this site-specific action.” EA at 51-52. Indeed, the EPA has cautioned “against comparing GHG emissions associated with a single project to global GHG emission levels” because it erroneously leads to a conclusion that “on a global scale, emissions are not likely to change” as a result of the project.³⁰ Applying the SCC, as provided above, takes these abstract emissions and places them in concrete, economic terms. It also allows the agency to easily perform the cost-benefit analysis mandated by EO 12866, as well as BLM’s own policy. Specifically, Instruction Memorandum No. 2013-131 (Sept. 18, 2013) is reflective of the BLM’s attempt to internalize the costs of such emissions:

All BLM managers and staff are directed to utilize estimates of nonmarket environmental values in NEPA analysis supporting planning and other decision-making where relevant and feasible, in accordance with the attached guidance. At least a qualitative description of the most relevant nonmarket values should be included for the affected environment and the impacts of alternatives in NEPA analyses....

Nonmarket environmental values 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. Examples include the perceived benefits from hiking in a wilderness or fishing for subsistence rather than commercial purposes. The economic methods described in this guidance provide monetary estimates of nonmarket values. Several non-economic, primarily qualitative methods can also be used to characterize the values attributed to places, landscapes, and other environmental features. Guidance on qualitative methods for assessing environmental values, including ethnography, interviews, and surveys, is in preparation.

Ideally, economic analysis for resource management should consider all relevant values, not merely those that are easy to quantify. Utilizing nonmarket values provides a more complete picture of the consequences of a proposed activity than market data alone would allow. The BLM's Land Use Planning Handbook, Appendix D encourages inclusion of information on nonmarket values, but does not provide detail.

The agency simply cannot continue to ignore its obligation to consider the costs of GHG emissions in its decisionmaking, as it has done here.

³⁰ See Light, 87 Tul. L. Rev. 511, 546.

Nor can the agency continue to tout the benefits of oil and gas development without similarly disclosing the costs. *See* 40 C.F.R. § 1502.23. In this case, BLM fails to mention *any* of the costs associated the Proposed Action, but is happy to discuss the anticipated economic benefits. For example, BLM applies a \$100 per barrel to the 8,240,000 BOE recovered from the leasehold to conclude: “The federal royalty ... would be \$103 million which would be foregone without leasing.” EA at 36. Ignoring for the moment that this figure pales in comparison to the \$152,694,118 in total SCC for developing these resources, this type of misleading and one-sided analysis is expressly forbidden. *See Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 446-47 (4th Cir. 1996) (“it is essential that the EIS not be based on misleading economic assumptions”); *Sierra Club v. Sigler*, 695 F.2d 957, 979 (5th Cir. 1983) (agency choosing to “trumpet” an action’s benefits has a duty to disclose its costs).

Here, the agency violated NEPA by relying on analysis that partially disclosed the amount of GHG pollution from foreseeable oil and gas development, while also failing to take the essential next step required for a hard look: disclosing the costs and impacts that such pollution would have. An economic cost-benefit analysis must be performed before the agency authorizes the proposed development. As detailed herein, such an analysis will reveal dramatically greater costs to people and the environment than anticipated benefits from the project, which seriously undermines the economic logic of proceeding with the proposed sale. At the very least, however, failing to provide any cost-benefit analysis is impermissible according to the agency’s multiple legal obligations, including NEPA, as well as the spirit and intent of EO 12866 and BLM’s own policy IM No. 2013-131.

b. Methane emissions and waste.

By making absolutely no commitment on mitigation measures and BMPs to address the GHG emissions from oil and gas leasing and development, the FFO is missing a critical opportunity and, indeed, obligation, to address the serious issue of methane (“CH₄”) emissions and waste. *See* EA at 42 (“The Field Office will work with industry to facilitate the use of the relevant BMPs for operations proposed on Federal mineral leases where such mitigation is consistent with agency policy.”). As detailed in Scoping Comments, incorporated herein, there readily available and cost-effective mitigation technologies that can drastically reduce the amount of methane lost during production. And, as introduced above, the IPCC’s new global warming potential (“GWP”) estimates for methane—of 34 over a 100-year period, and 86 over a 20-year period³¹—underscores the importance of eliminating methane waste, which is a critical step the FFO can take *now* to reduce GHG emissions in the planning area. That the FFO failed to make the use of *any* methane mitigation technology a requirement for the future development of these parcels is inexcusable.

Here, not only does the agency cite dated GWP estimates for methane of 21-25 times the warming potential of CO₂, EA at 40, but BLM also relies on the 100-year time period for these estimates, which fails to recognize the urgency of the climate problems we face. Quite simply, we do not have a century to make the necessary changes. Many climate effects are projected before the end of the century. By looking only at the 100-year figure, BLM’s analysis ignores

³¹ *See* IPCC, *Fifth Assessment Report Climate Change 2013* at 8-58.

costs that accrue in the interim. Methane emissions factor heavily into how we will address greenhouse gas pollution in the near term. Indeed, the IPCC projects that warming increases may reach 3.6°F (2°C) within decades.³² It's possible that we will experience this additional average heat well before mid-century. The dramatic climate impacts we've seen to date come from an increase of only about 1.5°F.³³ The dire reality we face was again reiterated in the IPCC's *Climate Change 2014 Synthesis Report* (attached as Exhibit 1), concluding:

Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.

Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks.

That the FFO failed to make the use of *any* methane mitigation technology a requirement for the future development of these parcels is inexcusable.

Moreover, the agency apparently relies on "Field Production Emission" as a method to quantify methane emission estimates for the EA, providing for 6,200 MTCO₂e for the San Juan Basin, while, by comparison, 558,000 MTCO₂e for the Permian Basin. *See* EA at 41. Not only does the 6,200 MTCO₂e of methane emissions for the San Juan Basin seem inordinately small, but appears to be in complete contradiction to NASA's recent report identifying a methane "hotspot" over the San Juan Basin.³⁴ Such estimates draw into question the reliability of BLM's assumptions regarding emissions for leasing and developing these parcels.

Indeed, more recent data submitted to the EPA's Greenhouse Gas Reporting Program ("GHGRP") by oil and gas producers shows that methane emissions are disproportionately large from four high-producing Western U.S. oil and gas basins—including the San Juan Basin—where most, or almost all, of the oil and gas production is from Federal lands or mineral estate and production is overseen by BLM. As shown below in Table 1, these basins—Green River, Piceance, San Juan, and Uinta—produced 14.5 percent of U.S. onshore natural gas and only 2.7

³² *Id.* at 27-28.

³³ *Id.* at 3.

³⁴ *See* NASA Science News, *U.S. Methane 'Hot Spot' Bigger than Expected*, Oct. 9, 2014, available at: http://science.nasa.gov/science-news/science-at-nasa/2014/09oct_methanehotspot/. *See also*, Eric A. Kort, *et al.*, *Four Corners: The largest US methane anomaly viewed from space*, GEOPHYSICAL RESEARCH LETTERS, Vol. 41, Issue 19, Oct 16, 2014 (attached as Exhibit 2).

percent of U.S. onshore oil in 2012,³⁵ but accounted for 27.1 percent of all the methane emissions reported from nationwide onshore oil and gas production in that year.³⁶

Table 1 – Oil and Gas Production and Reported Methane Emissions from Four Western US Basins with High Proportions of BLM Jurisdiction³⁷

Basin	Percentage of U.S. Gas Production	Percentage of U.S. Oil Production	Percentage of Reported U.S. Methane Loss
Green River	5.3%	0.8%	4.8%
Uinta	1.7%	1.3%	3.3%
San Juan	4.4%	0.1%	14.5%
Piceance	3.2%	0.4%	4.6%
Total for 4 Basins	14.5%	2.7%	27.2%

Furthermore, analysis of GHGRP data shows that emissions from a number of key sources are also disproportionately high in these basins, as shown in Table 2. For example, reported emissions from these four basins account for over 58 percent of nationwide reported emissions from liquids unloading and almost 35 percent of emissions from pneumatic controllers and pumps. Through its public forums, BLM has sought input on measures to reduce waste of natural gas from these sources, and as we discuss below, emissions from these sources can readily be reduced for very low (in some cases negative) cost.

Table 2 – Percentage of Nationwide Emissions for Specific Sources Occurring from the Green River, Uinta, San Juan, and Piceance Basins³⁸

Emissions Source		Percentage of National Emissions for Specific Source
Fugitives / Leaks		21.1%
Liquids Unloading		61.7%
Pneumatics	Pneumatic Controllers	33.6%

³⁵ For a description of the analysis methodology used to extract the information shown here and below on production and emissions from these basins, *see* Description of Methodology for Determining Methane Emissions from Production Basins and Sources (hereafter “Description of Methodology”) (attached as Exhibit 3).

³⁶ *See id.*, Description of Methodology. Not all methane emissions from oil and gas production facilities are reported to the GHGRP, due to limitations such as a reporting threshold that exempts smaller operators. However, we are not aware of any reason why these omitted emissions would skew the comparisons of GHGRP data for these basins and the US as a whole that we present here.

³⁷ *See id.*, Description of Methodology.

³⁸ *See id.*, Description of Methodology.

	Pneumatic Pumps	30.1%
Compressors	Reciprocating Compressors	42.6%
	Centrifugal Compressors	26.4%

These disproportionate emissions, far in excess of the portion of nationwide oil and gas production occurring in these basins, show that operations in these basins, including wells and facilities managed by BLM, are significantly worse than standard practice (let alone best practice). Quite simply, operations that BLM is managing are using wasteful practices that needlessly emit harmful pollutants, despite the Bureau's clear mandate to prevent such waste.

To comply with NEPA, the BLM must take a hard look at direct, indirect, and cumulative impacts, as discussed above. 40 C.F.R. §§ 1502.16(a), (b); 1508.25(c). In evaluating impacts, the agency must discuss "[e]nergy requirements and conservation potential of various alternatives and mitigation measures," "[n]atural or depletable resource requirements and conservation potential of various alternatives and mitigation measures," and "[m]eans to mitigate adverse environmental impacts (if not fully covered under 1502.14(f))." 40 C.F.R. §§ 1502.16(e), (f), (h). The FFO's EA fails to provide any such analysis or comparison.

We emphasize, again, the "heart" of the NEPA process: BLM's duty to consider "alternatives to the proposed action" and to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. §§ 4332(2)(C)(iii), 4332(2)(E); 40 C.F.R. § 1502.14(a). Alternatives are critical because, "[c]learly, it is pointless to 'consider' environmental costs without also seriously considering action to avoid them." *Calvert Cliffs' Coordinating Comm., Inc. v. U.S. Atomic Energy Commn.*, 449 F.2d 1109, 1128 (D.C. Cir. 1971). Here, BLM considered only two alternatives: a "no action" alternative in which none of the nominated parcels would be offered for sale, and the "proposed action" where 5 allotment parcels covering 2,802.66 acres are offered with standard terms and conditions as well as lease stipulations dating back to the obsolete and ineffective 2003 RMP and EIS. *See* EA 7 (discussing alternatives). None of these existing measures or stipulations addresses GHG emissions or methane waste.

With no analysis or context, the EA includes a section on Design Features where the following statement is made:

The FFO purchased an infrared camera designed to detect natural gas leaks on and around well pad and pipeline facilities. FFO inspection personnel have been trained to operate the camera and FFO is currently developing a strategy to implement the use of the camera in cooperation with oil and gas operators to detect and eliminate natural gas leaks in well pad and pipeline infrastructure.

EA at 9.

The infrared camera was purchased as part of the 2003 RMP settlement in 2010 by BLM and several of the organizations on this comment letter. The FFO has failed to develop a strategy to implement the infrared camera program while the infrared camera (purchased at considerable

expense) is mothballed in a BLM closet. If BLM has any data that shows that the infrared camera has been used in the field, we would be interested in being apprised of how and when it has been utilized. In the absence of such a demonstration, the agency's reliance on an otherwise nonexistent infrared camera program, here, fails to assuage Conservation Groups' concerns regarding harmful fugitive emissions and waste from the proposed action. Without a strategy, data, and analysis demonstrating the benefits of employing this technology to address the considerable impacts and waste of methane and other pollutant emissions in the planning area, it is disingenuous at best, and deceptive at worse, to tout this as a design feature that would mitigate impacts when developing these parcels—and furthermore fails to satisfy NEPA's hard look mandate. *See Morris*, 598 F.3d at 681.

Moreover, the FFO's EA fails to quantify the magnitude of methane pollution from oil and gas emissions sources within the planning area—which, given the agency's admission that these parcels will be developed in a business-as-usual manner—is directly relevant to the proposed sale. Oil and natural gas systems are the biggest contributor to methane emissions in the United States, accounting for over one quarter of all methane emissions, or 129.9 million metric tons of CO₂e each year (which does not include CH₄ that has been flared, captured, or otherwise controlled).³⁹ However, methane emission rates can differ quite dramatically from one oil and gas field to the next, and, depending on the type of mitigation and emission controls employed, emissions can range anywhere from 1% to 12% of production.⁴⁰ In order to sufficiently understand the scope of methane emission impacts expected from the proposed action, BLM should quantify estimated emission rates and analyze alternatives that would mitigate these impacts. However, even without specific data from the proposed action, we can assume leakage somewhere between these two extremes and, even at the low end, emissions reductions would not be trivial. The agency's refusal to consider any mitigation measures that would reduce these emissions fails to satisfy BLM's NEPA obligations.

Even setting aside the issue of climate change, every ton of methane emitted to the atmosphere from oil and gas development is a ton of natural gas *lost*. Every ton of methane lost to the atmosphere is therefore a ton of natural gas that cannot be used by consumers. Methane lost from federal leases will also not yield royalties otherwise shared between federal, state, and local governments. This lost gas reflects serious inefficiencies in how BLM oil and gas leases are developed. Energy lost from oil and gas production – whether avoidable or unavoidable – reduces the ability of a lease to supply energy, increasing the pressure to drill other lands to supply energy to satisfy demand. 40 C.F.R. §§ 1502.16(e)-(f). In so doing, inefficiencies create

³⁹ *See U.S. EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2012*, at 3-63 (April 2014) (attached as Draft EA Exhibit 12).

⁴⁰ *See, e.g., David T. Allen, et. al., Measurements of methane emissions at natural gas production sites in the United States*, PNAS (Aug. 19, 2013) (finding emissions as low as 1.5% of production at select sites) (attached as Scoping Exhibit 66); Anna Karion, et. al., *Methane emissions estimate from airborne measurements over a western United States gas field*, GEOPHYSICAL RESEARCH LETTERS (Aug. 27, 2013) (finding emissions of 6 to 12 percent, on average, in the Uintah Basin) (attached as Scoping Exhibit 67).

indirect and cumulative environmental impacts by increasing the pressure to satisfy demand with new drilling. 40 C.F.R. §§ 1508.7, 1508.8(b).

c. Managing for community and ecosystem resiliency.

Critically absent from the FFO's analysis is any mention of the climate change impacts already affecting the planning area, and, specifically, Navajo Allotment parcels. As provided in Scoping Comments, and according to experts at the Government Accountability Office ("GAO"), federal land and water resources are vulnerable to a wide range of effects from climate change, some of which are already occurring. These effects include, among others, "(1) physical effects, such as droughts, floods, glacial melting, and sea level rise; (2) biological effects, such as increases in insect and disease infestations, shifts in species distribution, and changes in the timing of natural events; and (3) economic and social effects, such as adverse impacts on tourism, infrastructure, fishing, and other resource uses."⁴¹ There is absolutely no mention, much less analysis, in the EA of these growing impacts or the necessity to employ climate mitigation measures to ensure landscape and human resiliency and their ability to adapt and respond to climate change impacts.

Beyond mitigating climate change by reducing contributions of GHG pollution to the atmosphere, the BLM can also help promote ecological resiliency and adaptability by reducing external anthropogenic environmental stresses (like oil and gas development) as a way of best positioning public lands, and the communities that rely on those public lands, to withstand what is acknowledged ongoing and intensifying climate change degradation. It is crucial for the BLM to close the gap in their decision-making regarding the cumulative contribution of oil and gas development authorized in the proposed action, particularly given the conflict between such authorization and the agency's responsibility to manage for healthy, resilient ecosystems. Although the FFO has recognized the threat of climate change, the agency's decision-making is not reflective of this harm and the agency fails to take the many necessary and meaningful steps to ameliorate the impacts to communities, landscapes, and species. The FFO's failure to even mention the relationship between climate change and these impacts is a fundamental deficiency in the EA, and fails to satisfy the agency's hard look obligation. *See Morris*, 598 F.3d at 681.

E. The BLM failed to take a "hard look" at hydraulic fracturing.

The BLM failed to take a hard look at hydraulic fracturing (or "fracking") impacts from oil and gas leasing and development in the planning area, and failed to consider the Conservation

⁴¹ GAO Report, *Climate Change: Agencies Should Develop Guidance for Addressing the Effects on Federal Land and Water Resources* (2007) (attached as Scoping Exhibit 35); *see also* Committee on Environment and Natural Resources, National Science and Technology Council, *Scientific Assessment of the Effects of Global Climate Change on the United States* (2008) (attached as Scoping Exhibit 36); Melanie Lenart, et. al. *Global Warming in the Southwest: Projections, Observations, and Impacts* (2007) (attached as Scoping Exhibit 37) (describing impacts from temperature rise, drought, floods and impacts to water supply on the southwest).

Groups detailed Scoping Comments on fracking, at 35-46, incorporated herein. 40 C.F.R. § 1506.6.

The agency's EA acknowledges that it is foreseeable that hydraulic fracturing will occur on leased parcels, and that "[h]ydraulic fracturing is a common process in the San Juan Basin and applied to nearly all wells drilled." *See* EA at 45. The agency also identifies impacts from fracking, such as: "Volatile organic compounds are emitted during the completion of hydraulically fractured wells," EA at 38; "a higher probability of dust particulates in the atmosphere from the increase in vehicular traffic due to hydraulically fracturing wells," EA at 38; impacts to special status species and wildlife, EA at 48; as well as impacts to nearby residents, EA at 49. However, in each instance the FFO either relies on vague and undefined future mitigation, attempts to explain why these impacts actually aren't that big a deal, or ignores these impacts altogether—all without ever providing the hard look analysis that NEPA demands.

With regard to VOC emissions from fracked wells, the EA cites EPA promulgated air quality regulations for completion of hydraulically fractured gas wells, and states that "[t]hese rules require air pollution mitigation measures that reduce emissions." EA at 39. However, the EA fails to provide what these mitigation measures actually are, or quantify how such measures "constitute an adequate buffer against the negative impacts [and] whether the mitigation measures will render such impacts so minor as to not warrant an EIS." *National Parks*, 241 F.3d at 735.

Concerning both special status species as well as wildlife more broadly, the agency offers the same assessment for both categories, providing that they "may be disturbed while hydraulic fracturing or other completion and stimulation operations are occurring, as these activities involve many vehicles, heavy equipment, and a workover rig." EA at 48. In response, the FFO provides that "impacts would be reduced [by] timing stipulations," or that "impacts would be limited to the timeframe during which drilling operations associated with hydraulic fracturing occur," or that "most wildlife species would become habituated to the new facilities. For other wildlife species with a low tolerance to activities, the operations on the well pad would continue to displace wildlife from the area due to ongoing disturbances such as vehicle traffic, noise and equipment maintenance." EA at 48. Other than timing limitations, the agency provides no other mitigation measures that could reduce impacts, and fails to describe how such measures constitute an adequate buffer and render impacts to a level of insignificance, as NEPA demands.

Critically, the agency also acknowledges impacts to nearby residents, who "may be disturbed while hydraulic fracturing or other completion and stimulation operations are occurring, as these activities involve many vehicles, heavy equipment, and a workover rig." EA at 49. In response, the FFO callously provides that "[t]hese impacts would be limited to the period of time during which drilling operations associated with hydraulic fracturing occur." EA at 49. Of course, these sensory impacts represent only some of the far broader effects that local residents will suffer from the proposed action, as detailed below. Plainly, however, the FFO cannot avoid a finding of significance simply because they allege that these impacts are limited in time, as the agency erroneously suggests. *See* 40 C.F.R. §§ 1508.8, 1508.27

F. The BLM failed to take a “hard look” at impacts to water resources.

The BLM failed to take a hard look at water resource impacts from oil and gas leasing and development in the planning area, and failed to consider the Conservation Groups detailed Scoping Comments on both water quality and quantity, at 50-53, incorporated herein. 40 C.F.R. § 1506.6. Because the agency’s one-page analysis of water resources focuses almost entirely on hydraulic fracturing, EA at 45-46, the FFO should also have considered Scoping Comments on fracking, discussed above.

a. Groundwater

Rather than perform the hard look analysis of potential impacts to groundwater from oil and gas leasing and development, the agency begins with the conclusory statement: “There are no verified instances of hydraulic fracturing adversely affecting groundwater in the San Juan Basin.” EA at 45. Simply because there are “no verified instances” of contamination does not obviate the agency’s requirement to take a hard look. *Methow Valley*, 490 U.S. at 350 (NEPA imposes “action forcing procedures ... requir[ing] that agencies take a *hard look* at environmental consequences.”). In fact, the FFO admits that “[c]ontamination of groundwater could occur without adequate cementing and casing of the proposed well bore.” EA at 46. The agency further acknowledges that “potential impacts to groundwater from the well bores would be long term for the life of the well.” EA at 46. Yet, the agency dismissively concludes that “[a]dherence to APD COAs and other design measures would minimize potential effects to groundwater quality.” EA at 46. Unspecified mitigation and unsupported conclusions fail to demonstrate an “adequate buffer against the negative impacts” and fail to determine “whether the mitigation measures will render such impacts so minor as to not warrant an EIS.” *National Parks*, 241 F.3d at 735.

The agency also states “there are no drinking water sources located in or near the proposed parcels.” EA at 24. Elsewhere, however, the agency recognizes the need for additional near-field air quality modeling “[d]ue to the close proximity of occupied buildings and residences to potential well sites on these lease parcels.” EA at 7. The agency fails to explain the apparent contradiction that an occupied building or residence wouldn’t also require a source of drinking water. Given the agency’s admission that groundwater contamination could occur—as well as a recently published study demonstrating drinking-water well contamination from fracking⁴²—the agency’s conclusion that there is no possibility of impacts to groundwater remains unsupported.

b. Surface Water

⁴² See Thomas H. Darrah, et al., *Noble gasses identify the mechanisms of fugitive gas contamination in drinking-water wells overlying the Marcellus and Barnett Shales*, PNAS (Aug. 12, 2014) (attached as Draft EA Exhibit 13) (identifying “discrete clusters of fugitive gas contamination ... that showed increased contamination through time” of drinking-water wells as a result of nearby hydraulic fracturing).

The extent of the FFO's consideration of surface water impacts from the proposed action is limited to one paragraph containing two sentences: "There would be the potential for accidental spills or releases of these materials, which could impact local water quality. The potential for surface water quality impacts from accidental spill or releases of hazardous materials on the well pads would be long term for the life of the wells." EA at 46. There is no discussion of mitigation or any other explanation of how these impacts are otherwise so insignificant as to not warrant an EIS. Such a cursory approach by the agency fails to their NEPA obligations seriously.

c. Water Quantity

The FFO's analysis of water quantity impacts is similarly devoid of detail. The limited extent of consideration in the EA provides: "The water used for hydraulic fracturing in the Farmington Field Office generally comes from permitted groundwater wells, although surface water sources may occasionally be used. Because large volumes of water are needed for hydraulic fracturing, the use of groundwater for this purpose might contribute to the drawdown of groundwater aquifer levels. Groundwater use is permitted and managed by the New Mexico Office of the State Engineer, and these water rights have already been designated." EA at 46. Whether or not BLM is responsible of allocation of water rights is beside the point of whether the agency has satisfied its obligations under NEPA. Here, the agency clearly has not. The agency fails to quantify the estimated amount of water foreseeably needed to develop oil wells on these parcels. There is no discussion of how the groundwater drawdown from developing these oil wells will impact the land, wildlife, livestock, or human communities in the planning area, or how these impacts are further compounded in a drought-stricken southwest. There is no discussion of alternatives—such as the use of nitrogen fracking, which is already occurring in the area and which was referenced by the FFO in a scoping meeting handout for the Mancos Shale RMP—or the tradeoff between water savings and air quality impacts of employing these technologies. There is no discussion of how impacts to groundwater will be mitigated, let alone with a sufficient enough buffer to avoid significance. Quite simply, the agency's EA does not satisfy the hard look NEPA demands. *See Morris*, 598 F.3d at 681.

G. The BLM failed to take a "hard look" at impacts to human health.

The BLM failed to take a hard look at human health impacts from oil and gas leasing and development in the planning area, and failed to consider the Conservation Groups detailed health concerns, as raised throughout the Scoping Comments, and, in particular at 46-50, incorporated herein. 40 C.F.R. § 1506.6.

The FFO generally identifies health impacts throughout the EA, but fails to ever offer the hard look that NEPA demands. For example, health concerns due to air quality are raised in the discussion of the Air Quality Index ("AQI") and National Air Toxics Assessment ("NATA"), EA at 14, but the agency erroneously assumes its obligations are satisfied by these references alone, and fails to acknowledge their independent responsibility to analyze these impacts under NEPA before an irretrievable commitment of resources is made.

The consideration of impacts adverse to human health are also acknowledged in the affected environment section as an obligation with regard to the agency's environmental justice review, EA at 32, but there is, characteristically, *no* subsequent analysis of those impacts. *See* EA at 37.

Finally, there is reference to the health risks associated with hydraulic fracturing included in Appendix 1 of the EA at 59. Although Appendix 1 broadly describes the fracking process, the consideration of "potential safety or health risks" associated with employing this technology is included amongst the issues to be analyzed in the future at the APD stage. EA at 60.

None of these references to the human health impacts of oil and gas leasing and development include any actual analysis. The FFO's shell-game approach to NEPA fails to satisfy the agency's explicit mandate to analyze all reasonably foreseeable impacts at the earliest practicable point, which, here, clearly requires assessment prior to the October 2014 lease sale. *See New Mexico ex rel. Richardson*, 565 F.3d at 718.

The EA's failure to take a hard look at the potential health impacts of oil and gas activities on these leases is especially concerning given the EA's acknowledgement of the likelihood that there will be "close proximity of occupied buildings and residences to potential well sites on these lease parcels." EA at 7. In response, the agency has imposed a lease stipulation for the 5 parcels requiring no surface occupancy ("NSO") within 660 feet of occupied residences. EA at 8. This setback is insufficient to ensure that health impacts will be avoided, and, critically, the agency has failed to provide any justification or data supporting this decision. For example, Colorado's oil and gas commission recently passed new rules imposing a 500-foot setback for residences, but a buffer zone setback of 1,000-feet wherein mitigation and COGCC approval is required. *See* 2 C.C.R. § 404-1. Notably, however, current Colorado ballot Initiative 88 seeks a 2,000-foot setback from the nearest occupied structure. Here, the agency has failed to justify its decision and has failed to take a hard look at the impacts to health that would result or the feasibility of more protective alternatives, in violation of NEPA.

Scientific research continues to raise concerns about the health risks of living in close proximity to oil and gas wells. In addition to the information raised in the Scoping Comments, there are at least two notable scientific papers BLM should consider in this context. First, a recent 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.⁴³ Second, a recent study found that babies whose mothers lived in close proximity to multiple oil and gas wells were 30% more likely to be born with defects in their heart than babies born to mothers who did not live close to oil and gas wells.⁴⁴ Rather than

⁴³ 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) (attached as Draft EA Exhibit 14).

⁴⁴ 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) (attached as Draft EA Exhibit 15).

merely noting that health impacts may occur, BLM must now take a hard look at the reasonably foreseeable health impacts of its actions based on the best available science.

H. The BLM failed to take a “hard look” at impacts to human communities, cultural values, and environmental justice.

The FFO attempts to avoid taking a hard look while at the same time acknowledging impacts to human communities, providing: “While the act of leasing federal minerals itself would result in no social impacts, subsequent development of a lease may generate impacts to people living near or using the area in the vicinity of the lease.” EA at 49. The agency recognizes a number of different impacts to local residents, including: “Oil and gas exploration, drilling, or production could create a disruption to these people due to increased traffic and traffic delays, air pollution, noise and visual impacts[;]” and that “nearby residents may be disturbed while hydraulic fracturing or other completion and stimulation operations are occurring, as these activities involve many vehicles, heavy equipment, and a workover rig[;]” and that “[c]reation of new access roads into an area could allow increased public access and exposure of private property to vandalism.” EA at 49. Yet, the agency is dismissive of all these concerns, concluding that “[f]or leases where the surface is privately owned and the subsurface is BLM managed, surface owner agreements, standard lease stipulations, and BMPs could address many of the concerns of private surface owners.” EA at 49. Not only does BLM’s vague reference to non-specific mitigation measures fail to satisfy the agency’s NEPA obligations for these identified impacts to communities, but the agency also ignores whole host of foreseeable impacts, the consideration of which should be fundamental to the agency’s decision-making process for the subject lease sale—considerations that are particularly critical, here, given the Navajo Allotment lands included in the sale. Critically, as noted above, occupied buildings and residences are in close proximity to well sites on these lease parcels, raising the specter impacts to human communities—not just from poor air quality, but myriad other impacts from hydraulic fracturing.

Moreover, there are excellent sources the FFO should consider in their assessment and consideration of impacts to human communities and, particularly, native communities, many of which are outlined in a recent article in THE ATLANTIC.⁴⁵ Among the concerns and impacts to native communities raised in this article—and in particular the social and cultural impacts experienced on the Fort Berthold Indian Reservation, located in the heart of North Dakota’s Bakken formation—include:

[North Dakota’s U.S. Attorney] noticed a peculiar pattern emerging from Fort Berthold. Many of his filings – a surprising number of them – involved non-Indian perpetrators. “We had five or six in a month,” he told me. “Why was this? We realized it’s non-enrolled folks moving to the oil patch.”

⁴⁵ Sierra Crane-Murdoch, *On Indian Land, Criminals Can Get Away With Almost Anything*, THE ATLANTIC (Feb. 22, 2013), available at: <http://www.theatlantic.com/national/archive/2013/02/on-indian-land-criminals-can-get-away-with-almost-anything/273391/> (attached as Draft EA Exhibit 16).

The immediate side-effects are the obvious ones, and they come with any boom: limited jail space, an overworked police force, a glut of men with cash in their pockets. In 2012, the tribal police department reported more murders, fatal accidents, sexual assaults, domestic disputes, drug busts, gun threats, and human trafficking cases than in any year before. The surrounding counties offer similar reports.

But there is one essential difference between Fort Berthold and the rest of North Dakota: The reservation's population has more than doubled with an influx of non-Indian oil workers – over whom the tribe has little legal control.

In 2011, the U.S. Justice Department did not prosecute 65 percent of rape cases reported on reservations. According to department records, one in three Native American women are raped during their lifetimes – two-and-a-half times the likelihood for an average American woman – and in 86 percent of these cases, the assailant is non-Indian.

Between 2009 and 2011, federal case filings on North Dakota reservations rose 70 percent.

With oil and gas industry predicting a new oil boom for the San Juan Basin⁴⁶—with an estimated 30 billion barrels of oil trapped in the Mancos Shale—the impacts described above threaten to compound those already experienced by the native and non-native communities in the planning area. BLM's failure to articulate and analyze such impacts represents a fundamental deficiency of the EA, and overlooks critical information weighing on the conclusions reached therein, in violation of NEPA.

The BLM attempts to characterize impacts to Navajo Allotment parcels as insignificant because these areas are rural, remote and undeveloped. *See, e.g.*, EA at 49. The industrial activities needed to drill, operate and deliver oil and gas resources from these proposed lease parcels would fundamentally and significantly alter communities and public lands in the region. One only needs to visit the Jicarilla Ranger District of the Carson National Forest to see how oil and gas development has destroyed the forest. By necessity, these remote lease areas could be populated by man camps, itinerant workers, numerous contractors and subcontractors bound to facilitate development of the leases with unknown regard for the communities. BLM should clearly prepare an EIS to assess the significant impacts that could occur to landowners, allottees and the public if leasing for oil and gas occurs.

VII. The BLM Failed to Sufficiently Analyze All Reasonable Alternatives.

⁴⁶ Staci Matlock, *New oil boom coming to San Juan Basin*, THE NEW MEXICAN (March 13, 2014), available at: http://www.santafenewmexican.com/news/local_news/new-oil-boom-coming-to-san-juan-basin/article_665ff2f2-bd6c-54fd-9dd8-238092c73917.html (attached as Draft EA Exhibit 17).

Through the January 2015 lease sale NEPA process, the FFO required to “estimate and display the physical, biological, economic, and social effects of implementing each alternative considered in detail. The estimation of effects shall be guided by the planning criteria and procedures implementing [NEPA].” 43 C.F.R. § 1610.4-6. Incumbent to any NEPA process is a robust analysis of alternatives to the proposed action. Consideration of reasonable alternatives is necessary to ensure that the agency has before it and takes into account all possible approaches to, and potential environmental impacts of, a particular project. NEPA’s alternatives requirement, therefore, ensures that the “most intelligent, optimally beneficial decision will ultimately be made.” *Calvert Cliffs’ Coordinating Comm., Inc. v. U.S. Atomic Energy Comm’n*, 449 F.2d 1109, 1114 (D.C. Cir. 1971).

“[T]he heart” of an environmental analysis under NEPA is the analysis of alternatives to the proposed project, and agencies must evaluate all reasonable alternatives to a proposed action.” *Colorado Environmental Coalition*, 185 F.3d at 1174 (quoting 40 C.F.R. § 1502.14). An agency must gather “information sufficient to permit a reasoned choice of alternatives as far as environmental aspects are concerned.” *Greater Yellowstone*, 359 F.3d at 1277 (citing *Colorado Environmental Coalition*, 185 F.3d at 1174); see also *Holy Cross Wilderness Fund v. Madigan*, 960 F.2d 1515, 1528 (10th Cir. 1992). Thus, agencies must “ensure that the statement contains sufficient discussion of the relevant issues and opposing viewpoints to enable the decisionmaker to take a ‘hard look’ at environmental factors, and to make a reasoned decision.” *Izaak Walton League of America v. Marsh*, 655 F.2d 346, 371 (D.C. Cir.1981) (citing *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n. 21 (1976)).

Here, BLM considered only two alternatives: a “no action” alternative in which none of the nominated parcels would be offered for sale, and the “proposed action” where 5 parcels covering 2,802.66 acres are offered with standard terms and conditions as well as lease stipulations dating back to the obsolete and ineffective 2003 RMP and EIS. See EA at 7 (discussing alternatives). In other words, the FFO failed to consider any alternative that would limit or mitigate the impacts of oil and gas development, or consider oil and gas development on equal footing to other multiple use values in the planning area.

FLPMA does not mandate that every use be accommodated on every piece of land; rather, delicate balancing is required. See *Norton v. S. Utah Wilderness Alliance*, 542 U.S. 55, 58 (2004). “‘Multiple use’ requires management of the public lands and their numerous natural resources so that they can be used for economic, recreational, and scientific purposes without the infliction of permanent damage.” *Public Lands Council v. Babbitt*, 167 F.3d 1287, 1290 (10th Cir. 1999) (citing 43 U.S.C. § 1702 (c)). As held by the Tenth Circuit, “[i]f all the competing demands reflected in FLPMA were focused on one particular piece of public land, in many instances only one set of demands could be satisfied. A parcel of land cannot both be preserved in its natural character and mined.” *Rocky Mtn. Oil & Gas Ass’n v. Watt*, 696 F.2d 734, 738 n. 4 (10th Cir.1982) (quoting *Utah v. Andrus*, 486 F.Supp. 995, 1003 (D.Utah 1979)); see also 43 U.S.C. § 1701(a)(8) (stating, as a goal of FLPMA, the necessity to “preserve and protect certain public lands in their natural condition”); *Pub. Lands Council*, 167 F.3d at 1299 (citing § 1701(a)(8)). As further provided by the Tenth Circuit:

BLM's obligation to manage for multiple use does not mean that development *must* be allowed on [a particular piece of public lands]. 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. Thus, an alternative that closes the [proposed public lands] to development does not necessarily violate the principle of multiple use, and the multiple use provision of FLPMA is not a sufficient reason to exclude more protective alternatives from consideration.

New Mexico ex rel. Richardson, 565 F.3d at 710. This type of analysis is entirely absent from the FFO's EA, which has elevated oil and gas above the area's other multiple use resources, in violation of NEPA. *See* 43 C.F.R. § 1610.4-6.

VIII. The BLM Failed to Update the 2002 Biological Assessment and Failed to Consult for Biological Impacts in the EA.

BLM's EA quickly contorts procedural requirements to comply with the Endangered Species Act ("ESA"):

Under Section 7 of the Endangered Species Act of 1973 (as amended), the BLM is required to consult with the U.S. Fish and Wildlife Service (USFWS) on any proposed action which may affect federal listed threatened or endangered species or species proposed for listing. Based on FFO's field inspection and reviews, it was determined that there are no known threatened or endangered species located within the area of analysis. **The proposed action would not be in compliance with the 2002 Biological Assessment for the 2003 BLM/FFO RMP (Cons. #2-22-01-I-389).** (bold and underlined for emphasis) Consultation with USFWS under the Endangered Species Act may be required for any new ground disturbing activity. Any proposed project within the proposed leases would require new effects determination on federally-listed species to ensure any proposed project does not contribute to the demise of the listed species or their habitat.

EA at 25 (emphasis added). Later, BLM again asserts that the 2002 Biological Assessment ("BA") does not sufficiently cover the proposed action analyzed in the EA:

Consultation under ESA with the USFWS may be required at the Application to Drill stage. Any parcels that may impact federally-listed plant species or their habitat would likely require a biological assessment and consultation of the Endangered Species Act. Biological surveys will be required prior to any proposed project that may affect a federally-listed species. The results of the biological survey will determine if a biological assessment and consultation with USFWS is required.

EA at 47.

This acknowledgement, that the BLM is out of compliance with responsibilities to consult with USFWS on ESA compliance, as well as the need to prepare a new BA for this EA,

are fatal flaws for this document. It is erroneous for BLM to claim that consultations come later than the current EA. Potential impacts to two federally listed plant species ignored and otherwise thrown in to this boilerplate EA with no consideration given on the requirement for BLM to consult *now* on the proposed action. With regard to Federally endangered Mesa Verde cactus, the EA states that: “Parcel #73 does not include Mancos or Fruitland Shale Formations.” EA at 27. However, there is no Parcel #73 in this EA. Perhaps, this write-up is left over from a previous EA that BLM prepared in the past, but such an error cannot be relied upon to support agency decision-making, here. Moreover, certain parcels included in this sale may contain potential Mesa Verde cactus and its habitat, requiring consultation with USFWS by submitting a formal BA.

With the acknowledgment by BLM of failure to consult with USFWS, all analyses in the EA concerning biological resources and Special Status species are meaningless, arbitrary and capricious. We suggest that BLM address this fatal flaw before attempting to proceed.

IX. The BLM Failed to Take a Hard Look at Impacts to the Golden Eagle, and Failed to Coordinate Pursuant to the Bald and Golden Eagle Protection Act or Seek Authorization Pursuant to the Migratory Bird Treaty Act.

The only mention of the golden eagle in the entire EA is a reference in the affected environment section, which provides: “The proposed action are contains suitable habitat for foraging, but nesting habitat marginal.” EA at 28. There are, however, currently active and/or historic golden eagle nest sites in the region, making BLM’s assessment of the existing environmental conditions clearly erroneous while, also, raising serious questions regarding the agency’s due diligence in the preparation of this EA.

Not only does BLM fail to identify golden eagles potential presence in the project planning area, but the agency has failed to apply several mitigation measures required under the existing 2003 Farmington RMP, including noise limitations and timing limitations. *See* 2003 RMP at 2-8, 2-32. Even assuming that these mitigation measures will ultimately be applied, the agency has failed to demonstrate that these measures constitute an adequate buffer that would lower impacts to golden eagle to a level of insignificance, and has failed to provide the type of hard look analysis of possible impacts to golden eagle required under NEPA. Indeed, aside from the FFO’s erroneous conclusion regarding the suitability of golden eagle nesting habitat, there is no further discussion *anywhere* in the EA concerning impacts to the species, which is a clear violation of BLM’s NEPA mandate. *See Morris*, 598 F.3d at 681 (NEPA “requires ... that an agency give a ‘hard look’ to the environmental impact of any project or action it authorizes.”).

Moreover, the Bald and Golden Eagle Protection Act (“BGEPA”), 16 U.S.C. § 668 *et seq.*, includes substantive requirements that the FFO has also ignored. The BGEPA strictly prohibits “take” of any bald or golden eagle “at any time or in any manner” “without being permitted to do so” by the U.S. Fish and Wildlife Service (“FWS”). *See* 16 U.S.C. § 668(a) (imposing criminal penalties for unlawful take done “knowingly, or with wanton disregard”), *id.* § 668(b) (imposing civil penalties for unlawful take on a strict liability basis). BGEPA defines the term “take” broadly to include “wound, kill ... molest or disturb.” *Id.* § 668c. “Take” under BGEPA includes direct incidental take, such as electrocution of eagles from power lines or

collisions with wind turbines, as well as indirect incidental take, such as habitat modification or other human disturbances that adversely impact eagles.

BGEPA allows the FWS to issue permits authorizing the take or disturbance of golden eagles provided that such take “is compatible with the preservation of . . . the golden eagle.” 16 U.S.C. § 668a. In 2009, the FWS promulgated implementing regulations for issuing incidental take permits for both individual instances of take as well as “programmatic take” for take that is recurring. 50 C.F.R. § 22.26. The FWS may issue an eagle take permit so long as the take is: (1) “compatible with the preservation” of eagles; (2) necessary to protect an interest in a particular locality; (3) associated with but not the purpose of the activity; and (4) for individual instances of take, the take cannot practicably be avoided; or for programmatic take, take is unavoidable even though advanced conservation practices are being implemented. *Id.* § 22.26(f). For purposes of the BGEPA regulations, “compatible with the preservation” of eagles means “consistent with the goal of stable or increasing breeding populations.” FWS, Final Rule: Eagle Permits; Take Necessary to Protect Interests in Particular Localities, 74 Fed. Reg. 46,837 (Sept. 11, 2009) (codified at 50 C.F.R. pt. 22).

To avoid liability under BGEPA, a project developer that wishes to build a project in known eagle habitat must coordinate with the FWS before project construction to determine whether the project is likely to kill or disturb eagles and, if so, whether such take can be avoided, or if it is unavoidable whether take can at least be substantially minimized by readily available measures. During this process, the FWS must evaluate several factors, including eagles’ prior exposure and tolerance to similar activity in the vicinity; the availability of alternative suitable eagle nesting or feeding areas that would not be detrimentally affected by the activity; cumulative effects of other permitted take and other additional factors affecting eagle populations; and the possibility of permanent loss of an important eagle use area. See 50 C.F.R. § 22.26(e). There is no indication that such coordination has occurred, here.

If the take or disturbance of eagles cannot be avoided entirely, a permit must be acquired prior to project construction. However, if the FWS determines that “take is not likely to occur,” a permit is not required. See *id.* § 22.26(g). Acquisition of a permit where there is a likelihood of eagle take ensures compliance with BGEPA by authorizing ongoing unavoidable take, as well as by promoting eagle conservation through required implementation of avoidance and mitigation measures such as compensatory mitigation. *Id.* § 22.26(c).

The Migratory Bird Treaty Act (“MBTA”), 16 U.S.C. § 703 *et seq.*, also applies to the circumstances of this sale, and strictly prohibits killing migratory birds without authorization from the Interior Department (via the FWS). Enacted to fulfill international treaty obligations, the MBTA provides that “[u]nless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill . . . any migratory bird.” 16 U.S.C. § 703(a) (emphasis added). The Secretary is authorized to permit the killing of birds otherwise protected by the MBTA when doing so would be compatible with migratory bird conventions. *Id.* § 704(a).

Where federal agencies, such as BLM’s proposed lease sale, undertake or authorize a

project which will inevitably result in migratory bird mortalities—regardless of whether the mortalities are intentional—without first obtaining authorization from the Interior Department to kill migratory birds, the agency’s actions are unlawful. *See Humane Soc’y of the U.S. v. Glickman*, 217 F.3d 882, 884-88 (D.C. Cir. 2000) (holding that federal agencies must obtain authorization from the Department of the Interior before they kill birds protected by the MBTA, or permit state agencies to do so); *see also City of Sausalito v. O’Neill*, 386 F.3d 1186, 1204 (9th Cir. 2004) (holding that “anyone who is ‘adversely affected or aggrieved’ by an agency action alleged to have violated the MBTA has standing to seek judicial review of that action”); *United States v. Moon Lake Elec. Ass’n*, 45 F. Supp. 2d 1070 (D. Colo. 1999) (holding that the MBTA prohibits the unintentional killing of protected birds by power lines); *United States v. Corbin Farm Serv.*, 444 F. Supp. 510, 532-36 (E.D. Cal. 1978) (holding that the MBTA prohibits the unintentional killing of protected birds by pesticide poisoning). There is no evidence that BLM has obtained the required authorization for the incidental take of golden eagles, here.

In particular, courts have held that activities undertaken without an MBTA permit by federal agencies that will result in unauthorized incidental take of migratory birds constitute violations of the MBTA. *See, e.g., Ctr. for Biological Diversity v. Pirie*, 191 F. Supp. 2d 161, 174-75 (D.D.C. 2002), *vac’d as moot sub nom., Ctr. for Biological Diversity v. England*, No. 02-5163, 2003 WL 179848 (D.C. Cir. Jan. 23, 2003) (holding that Navy training exercises, which were not “directed at wildlife” but did have the predictable and “direct consequence of killing and harming migratory birds,” violated the MBTA’s take prohibition, and explaining that “the MBTA prohibits both intentional and unintentional killing”).

X. FLPMA: Unnecessary and Undue Degradation

Pursuant to the Federal Land Policy and Management Act (“FLPMA”), 43 U.S.C. § 1701 *et seq.*, “[i]n managing the public lands,” the agencies “shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands.” 43 U.S.C. § 1732(b). Written in the disjunctive, BLM must prevent degradation that is “unnecessary” and degradation that is “undue.” *Mineral Policy Ctr. v. Norton*, 292 F.Supp.2d 30, 41-43 (D. D.C. 2003). This protective mandate applies to agencies planning and management decisions, and should be considered in light of its overarching mandate that the FFO employ “principles of multiple use and sustained yield.” 43 U.S.C. § 1732(a); *see also, Utah Shared Access Alliance v. Carpenter*, 463 F.3d 1125, 1136 (10th Cir. 2006) (finding that BLM’s authority to prevent degradation is not limited to the RMP planning process). While these obligations are distinct, they are interrelated and highly correlated. The Bureau must balance multiple uses in its management of public lands, including “recreation, range, timber, minerals, watershed, wildlife and fish, and [uses serving] natural scenic, scientific and historical values.” 43 U.S.C. § 1702(c). It must also plan for sustained yield—“control [of] depleting uses over time, so as to ensure a high level of valuable uses in the future.” *Norton v. S. Utah Wilderness Alliance*, 542 U.S. 55, 58 (2004).

“Application of this standard is necessarily context-specific; the words ‘unnecessary’ and ‘undue’ are modifiers requiring nouns to give them meaning, and by the plain terms of the statute, that noun in each case must be whatever actions are causing ‘degradation.’ ” *Theodore Roosevelt Conservation Partnership v. Salazar*, 661 F.3d 66, 76 (D.C. Cir. 2011) (citing *Utah v.*

Andrus, 486 F.Supp. 995, 1005 n. 13 (D. Utah 1979) (defining “unnecessary” in the mining context as “that which is not necessary for mining”—or, in this context, “for oil and gas development”—and “undue” as “that which is excessive, improper, immoderate or unwarranted.”); *see also Colorado Env’t Coalition*, 165 IBLA 221, 229 (2005) (concluding that in the oil and gas context, a finding of “unnecessary or undue degradation” requires a showing “that a lessee’s operations are or were conducted in a manner that does not comply with applicable law or regulations, prudent management and practice, or reasonably available technology, such that the lessee could not undertake the action pursuant to a valid existing right.”).

Here, that action is the oil and gas development authorized by the FFO through the January 2015 lease sale. The inquiry, then, is whether the agency has taken sufficient measures to prevent degradation unnecessary to, or undue in proportion to, the development the proposed action permits. *See Theodore Roosevelt Conservation Partnership*, 661 F.3d at 76. For example, methane waste and pollution may cause “undue” degradation, even if the activity causing the degradation is “necessary.” Where methane waste and pollution is avoidable, even if in the process of avoiding such emissions lessees or operators incur reasonable economic costs that are consistent with conferred lease rights, it is “unnecessary” degradation. 43 U.S.C. § 1732(b).

Therefore, drilling activities may only go forward as long as unnecessary and undue environmental degradation does not occur. This is a *substantive* requirement, and one that the BLM must define and apply in the context of oil and gas development authorized through the lease sale. In other words, the FFO must define and apply the substantive UUD requirements in the context of the specific resource values at stake.

Further, these UUD requirements are distinct from requirements under NEPA. “A finding that there will not be significant impact [under NEPA] does not mean either that the project has been reviewed for unnecessary and undue degradation or that unnecessary or undue degradation will not occur.” *Ctr. for Biological Diversity*, 623 F.3d at 645 (quoting *Kendall’s Concerned Area Residents*, 129 I.B.L.A. 130, 140 (1994)). In the instant case, BLM must specifically account for UUD in its NEPA analysis for the January 2015 lease sale, which is distinct from its compliance under NEPA, and is also actionable on procedural grounds.

XI. The BLM Failed to Properly Consult on the National Historic Preservation Act and has Not Completed Section 106 Consultations for the EA.

The National Historic Preservation Act (“NHPA”) imposes the requirement on federal agencies to “take into account the effect[s] of [their] Undertaking[s] on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register.” 16 U.S.C. § 470f (“Section 106”). Section 106 has been characterized as a “stop, look, and listen” statute. *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 805 (9th Cir. 1999). Section 106 consultation must be performed at a time when the full range of avoidance and mitigation measures is still available to a federal agency proposing an undertaking. 36 C.F.R. § 800.1(c). “[P]roject planning activities” that “restrict the subsequent consideration of alternatives to avoid, minimize or mitigate the undertaking’s adverse effects on historic properties” can occur only after the Section 106 consultation is complete. *Id.*

Chaco Culture National Historical Park (“CCNHP” or “the Park”) is located within the geographic area that includes lands and federal minerals under the jurisdiction of the Farmington Field Office and is within the study area for the RMP Amendment. The Park is listed on the National Register of Historic Places and is designated a World Heritage Site. Air and light pollution, noise, and vehicle traffic from oil and gas leasing, exploration, and development authorized by BLM all have the potential to adversely affect not only the Park, but also the “Greater Chaco Landscape”⁴⁷ which is almost fully contained within the boundaries of the FFO. However, BLM has yet to analyze whether and to what extent the Park, in particular, and the Greater Chaco Landscape, in general, will be impacted by exploration for and development of the Mancos Shale formation. Such a “landscape level” impacts analysis is required before BLM can approve any leases in the Mancos Shale formation.

The EA does not include any landscape-level analysis of impacts to significant cultural resources such as the Park, Chacoan Outliers, or other cultural components of the Greater Chaco Landscape. By defining the Area of Potential Effect (“APE”) for each lease as the lease boundary, BLM has unlawfully limited its impacts analysis only to cultural resources within the footprint of each lease and completely ignored both the variety of landscape-level cultural resources present outside the lease footprints as well as the impacts to those resources from activities occurring within the leases. Under Section 106 of the NHPA, the APE for purposes of assessing project impacts is defined as the geographic area/s within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. 36 C.F.R. § 800.16(d). The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by an undertaking. *Id.* Accordingly, BLM may define the footprint of a lease as the APE for surface impacts to archaeological sites, but must also include a much larger APE for noise, visual, and seismic impacts to landscape-level cultural properties that could be impacted by activities on individual leases.

BLM’s claims in the EA that “no objection to the APE was raised,” are incorrect. EA at 18. It appears that inventories for archeological resources, effect determinations, and consultations remain incomplete in this EA. The BLM acknowledges that “there are 17 archaeological sites on record in the parcels and approximately 471 acres of that acreage (17%) has been inventoried for cultural resources.” EA at 18. Although this level of investigation and disclosure within the footprints of the leases may be appropriated for isolated archaeological sites, it does not mitigate potentially significant noise, visual, or seismic impacts to landscape-level cultural properties. In *New Mexico ex. rel. Richardson v. Bureau of Land Mgmt.*, 459 F. Supp. 2d 1102 (D.N.M. 2006), the court explicitly recognized this distinction where BLM

⁴⁷ The “Greater Chaco Landscape” includes the Park, most of the Chaco Culture World Heritage Site, several of the satellite villages (known as Chacoan Great House Communities), other resources affiliated with Chaco Canyon that have been formally designated by either Congress or BLM, and the Great North Road, which once linked Chaco Canyon with a settlement approximately 55 miles to the north known today as Aztec Ruin. The World Heritage Site designation is not limited to the Park but also includes four Chacoan Outliers (Pierre’s Site, Halfway House, Twin Angels, and Aztec Pueblo) located along the North Road and two Outliers (Kin Nizhoni and Casamero) along the South Road.

proposed avoidance as the mitigation measure to avoid impacts to all potentially impacted cultural resources:

BLM's argument focuses on historical sites covering relatively small areas, such as discrete archaeological sites. For such sites, mitigation of impacts can be accomplished simply by moving the proposed drill site to a different location on the lease parcel. For landscape-level [properties] that may or may not be located on the leased parcel itself, however, such movement may not be adequate mitigation.

Id. at 1124-25. Therefore, a "landscape level" impacts analysis is required before BLM can approve any of the leases for Mancos shale development because BLM has never completed such an impacts analysis. Neither the 2003 RMP nor subsequent EAs for lease sales have considered impacts to landscape-level cultural properties from oil and gas development. Moreover, BLM is now approving APDs for horizontal drilling, a technology for which the agency admits it has never analyzed impacts to the environment or cultural resources. *New Mexico ex. rel. Richardson* stands for the principle that BLM cannot limit its impacts analysis only to cultural resources present on a proposed lease parcel, and must analyze both direct and impacts to all potentially impacted cultural resources regardless of whether they are located on the lease parcel.

BLM's responsibility on archaeological inventories, analyses, and studies as preparer of this EA require compliance with the Archaeological Resource Protection Act ("ARPA"), NHPA, and Native American Graves Protection and Repatriation Act ("NAGPRA"). Consultations with tribes, State Historic Preservation Officer ("SHPO"), cooperating agencies and consulting parties (under Section 106 of NHPA) must be completed for the EA impact analysis to occur. Unresolved issues remain with Hopi Tribe correspondence from March 2014 to the BLM, regarding oil and gas leasing on FFO lands in the Greater Chaco Landscape, which requested a cultural resources overview for review and comment.⁴⁸

Furthermore, Section 110k of the NHPA,⁴⁹ as amended in 1992, prohibits causing adverse effects to an identified National Register-eligible historic property without first completing the Section 106 consultation process in good faith. *See* 16 U.S.C. 470f ("Section 106"), and 16 U.S.C. 470h-2.

Each Federal agency shall ensure that the agency will not grant a loan, loan guarantee, permit, license, or other assistance to an applicant who, with intent to avoid the requirements of section 106, has intentionally significantly adversely affected a historic property to which the grant would relate, or having legal power

⁴⁸ Letter from Leigh Kuwanwisiwma, Hopi Cultural Preservation Office to Gary Torres, BLM March 25, 2014.

⁴⁹ Generally, Section 110 of NHPA governs Federal agency programs by providing for consideration of historic preservation in the management of properties under Federal ownership or control. 16 U.S.C. § 470h-2 (1994).

to prevent it, allowed such significant adverse effect to occur, unless the agency, after consultation with the Council, determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.

16 U.S.C. 470h-2(k). The Section 106 duty remains constant throughout the lifetime of the undertaking. *Morris County Trust for Hist. Pres. v. Pierce*, 714 F.2d 271 (3rd Cir. 1983).

Both San Juan Citizens Alliance and Chaco Alliance are recognized by the BLM with consulting party status on oil and gas leasing in proximity to Chaco Culture National Historical Park (granted consulting party status on April 6, 2010). The EA also claims a quasi, ongoing consultation under the NHPA and misrepresents marginal correspondence/responses with interested parties, consulting parties, tribes and Navajo Chapters as concurrence with no objections to the Area of Potential Effect (“APE”). BLM’s continued manipulation and denial of responsibilities to identify an APE renders this entire EA exercise meaningless given the numerous letters and correspondence from tribes and consulting parties asking for protection of the region from energy development. One such letter was from the Hopi Tribe to BLM on April 4, 2014 includes:

the Hopi Cultural Preservation Office reiterated that oil and gas leasing and development on FFO lands surrounding Chaco threaten the park and the Greater Chaco Landscape, and that the co-mingling of energy development and resource protection around Chaco will inevitably lead to adverse effects to cultural resources significant to the Hopi Tribe.⁵⁰

BLM has the responsibility to protect Chaco outliers and the extensive road system that has been identified as associated with Chaco throughout Northwest New Mexico, including Chacoan roads.⁵¹ Among other concerns, the Draft EA does not explain or map the relationship of the Chaco Protection Site System and/or Pueblo Pintado to the proposed lease sites. The EA must be updated to correctly characterize the status of consultations and the resultant effect determinations concerning archeology, heritage, and traditional cultural properties.

BLM’s EA fails to address responsibilities for federal actions on resources protected by “Special Designations” notably the National Trail System Act, 16 U.S.C. §1241 *et seq.*, with specific regard to the Chaco Site Protection System, as amended by the Chaco Outliers

⁵⁰ April 4, 2014 Letter from Leigh Kuwanwisiwma, Director, Hopi Cultural Preservation Office to Gary Torres, Field Office Manager, BLM.

⁵¹ See John Kanter, *Chaco Roads*, available at: <http://www.colorado.edu/Conferences/chaco/roads.htm>; see also John Kanter, *Ancient Roads, Modern Mapping: Evaluating Chaco Anasazi Roadways Using GIS Technology* (1997) (attached as Exhibit 4); John R. Stein and Peter J. McKenna, *An Archaeological Reconnaissance of a Late Bonito Phase Occupation near Aztec Ruins National Monument, New Mexico*, Santa Fe: Southwest Cultural Resources Center, National Park Service (1988).

Protection Act, 16 U.S.C. § 410ii; the National Historic Preservation Act, 16 U.S.C. § 470; and the Archaeological Resources Protection Act, 16 U.S.C. § 470aa-470mm.

BLM also has affirmative responsibilities to comply with the Chaco Site Protection System Act (“CSPSA”), Public Law 96-550, 16 U.S.C. § 410ii, which states:

(b) It is the purpose of this subchapter to recognize the unique archeological resources associated with the prehistoric Chacoan culture in the San Juan Basin and surrounding areas; to provide for the preservation and interpretation of these resources; and to facilitate research activities associated with these resources.

As with the NTSA designation of the OSNHT, these responsibilities are independent of compliance with the NHPA. The CSPSA nowhere establishes a view-shed distance threshold for an action that may have a direct or indirect effect on components designated in the CSPS. The proposal for designation of a Chaco Landscape ACEC,⁵² effectively demonstrates that protection of the World Heritage Site, Chaco Culture National Historic Park, components of the CSPS and existing designated BLM ACECs (such as the Great North Road), which require consideration as a broader landscape. It is entirely possible that actions more than 5 or 15 miles a way might have audible and visible effects on one or more of these special designations, and require a NEPA hard look. The EA glosses over the cumulative impacts to archeological resources in the region, with BLM assuming overall authority over potential leases on Navajo Allotments and National Forest lands.

BLM claims of compliance with the NHPA are erroneous, particularly given that BLM continues to ignore tribes and consulting parties that object to BLM proceeding with leasing. BLM continues the circuitous pattern of segmenting the oil and gas leases and asserting that more detailed analysis will occur later at APD stages, which, as detailed above, fails to satisfy the agency’s NEPA obligations.

Local communities in the Lybrook and Counselor areas have already been greatly impacted by the Mancos Shale oil drilling and development that has occurred to date (including wells, flaring, pipelines and truck traffic), as discussed above. This development is already impacting areas that have great cultural significance—impacts which have been ignored by BLM in the quest to expedite oil drilling and development. It is unacceptable for BLM to continue to lease for Mancos Shale oil development in this area where consultations with local communities remain incomplete, and, as a result, where information and analysis is deficient.

XII. Conclusion

The Conservation Groups appreciate your consideration of the information and concerns addressed herein, as well as the information included in the attached exhibits. In general, we are alarmed at the fatal deficiencies of the EA analysis and the numerous issues overlooked and/or

⁵² See San Juan Citizens Alliance, *SJCA Works to Protect Chaco Culture National Historic Park*, available at: <http://www.sanjuancitizens.org/article.php?id=32>.

marginalized in the EA. The boilerplate EA continues the trend of BLM rushing oil and gas lease documents to meet prescribed lease sale schedules, rather than performing the analysis required by NEPA and its implementing regulations. Please insure that you incorporate our comments and information (including Exhibits) in any revisions for the January 2015 lease sale EA.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



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