Protest hand delivered

U.S. Bureau of Land Management
New Mexico State Office
Attn.: Tim Spisak, Acting State Director
301 Dinosaur Trail
Santa Fe, NM 87508

Re: Protest of the New Mexico BLM’s June 20, 2019 Oil & Gas Lease Sale, Farmington and Rio Puerco Field Office Parcels

Dear State Director Spisak,

Pursuant to 43 C.F.R. § 3120.1-3, WildEarth Guardians ("Guardians") along with the Center for Biological Diversity, Chaco Alliance, Diné Citizens Against Ruining the Environment, Food & Water Watch, San Juan Citizens Alliance, Sierra Club, Waterkeeper Alliance, Western Environmental Law Center, and 350 New Mexico (hereinafter “Citizen Groups”), submit the following protest of the U.S. Bureau of Land Management’s ("BLM’s") decision to move forward with its June 20, 2019 competitive oil and gas lease sale. The agency is offering for lease 51 publicly-owned oil and gas parcels totaling 39,624 acres across New Mexico, Kansas, and Oklahoma. This protest pertains to the 40 parcels (37,510.120 acres) within Farmington Field Office ("FFO"), Rio Puerco Field Office ("RPFO"), and the Greater Chaco Region.


This protest is filed on behalf of the above Citizen Groups our members. The mailing address to which correspondence regarding this protest should be directed is as follows:

Rebecca Fischer  
Climate & Energy Program Attorney  
WildEarth Guardians  
2590 Walnut Street  
Denver, CO 80205

We protest the following parcels:

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INTERESTS OF THE PROTESTING PARTY

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 Greater Chaco Region in northwestern New Mexico in order to safeguard its cultural heritage, natural values, communities, and open spaces.

The Center for Biological Diversity (“Center”) is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center also works to reduce greenhouse gas emissions to protect biological diversity, our environment, and public health. The Center has over one million members and activists, including those living in New Mexico who have visited these public lands for recreational, scientific, educational, and other pursuits and intend to continue to do so in the future, and are particularly interested in protecting the many native, imperiled, and sensitive species and their habitats that may be affected by the proposed oil and gas leasing.

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.

Diné Citizens Against Ruining Our Environment (“Diné C.A.R.E.”) is an all-Navajo organization comprised of a federation of grassroots community activists in Arizona, New Mexico and Utah who strive to educate and advocate for our traditional teachings derived from our Diné Fundamental Laws. Our goal is to protect all life in our ancestral homeland by empowering local and traditional people to organize, speak out, and determine the outlook of the environment through civic involvement and engagement in decision-making process relating to tribal development.
Food & Water Watch champions healthy food and clean water for all. We stand up to corporations that put profits before people, and advocate for a democracy that improves people’s lives and protects our environment. We are a public interest organization that remains independent of corporate and government influence. We are funded fully through our members, individual donors, and foundation grants. We engage and mobilize citizens politically through person-to-person, on-the-ground organizing, educational campaigns and new media technologies. We believe political involvement is critical for holding governments accountable to their constituents and for creating policies that ensure a sustainable world with safe food and clean water.

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.

The Sierra Club was founded in 1892 and is the nation’s oldest grassroots environmental organization. The Sierra Club is incorporated in California, and has over 790,000 members nationwide and is dedicated to the protection and preservation of the environment. The Sierra Club’s mission is to explore, enjoy and protect the wild places of the earth; to practice and promote the responsible use of the earth’s ecosystems and resources; and to educate and enlist humanity to protect and restore the quality of the natural and human environments. The Sierra Club has a New Mexico chapter, known as the Rio Grande chapter, with members that live in and use this area for recreation such as hiking, climbing, backpacking, camping, fishing and wildlife viewing, as well as for business, scientific, spiritual, aesthetic and environmental purposes.

Waterkeeper Alliance is a not-for-profit, member supported, international environmental organization based in New York City. Waterkeeper Alliance unites more than 300 Waterkeeper Organizations and Affiliates that are on the frontlines of the global water crisis, patrolling and protecting more than 2.5 million square miles of rivers, lakes, and coastal waterways on 6 continents. Waterkeeper Organizations and Affiliates defend our fundamental human right to drinkable, fishable and swimmable waters, and combine firsthand knowledge of their waterways with an unwavering commitment to the rights of their communities. Through its Clean and Safe Energy campaign, Waterkeeper Alliance has increasingly engaged in public advocacy, administrative proceedings and litigation aimed at reducing the water quality and climate change impacts of fossil fuel extraction, transport and combustion, including from BLM-controlled lands, throughout the United States. Waterkeeper Alliance and its member Waterkeeper Organizations and Affiliates have members, supporters and staff who have visited public lands in Colorado, including lands and waters that would be affected by actions under the
lease sale, for recreational, scientific, educational, and other pursuits and intend to continue to do so, and are particularly interested in protecting them from water-intensive energy development.

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.

350 New Mexico works to build an inclusive movement in New Mexico to prevent the worst effects of climate change and climate injustice by engaging ordinary New Mexicans to stand up to the fossil fuel industry and drive a just transition to renewable energy for all.

The Citizen Groups have consistently participated in BLM decisionmaking for prior oil and gas leasing in the Greater Chaco Region and, therefore, incorporate by reference our prior administrative comments, protests, and exhibits submitted for these lease sales, including our:

- October 2014 Scoping Comments (submitted March 24, 2014), Draft Environmental Assessment Comments (May 28, 2014), and Protest (August 14, 2014);
- January 2015 Draft Environmental Assessment Comments (September 23, 2014) and Protest (November 19, 2014);
- October 2016 Scoping Comments (March 14, 2016);
- January 2017 Scoping Comments (June 17, 2016), Draft Environmental Assessment Comments (September 2, 2016), and Protest (December 6, 2016);
- March 2018 Draft Environmental Assessment Comments (October 20, 2017) and Protest (January 3, 2018);
- December 2018 Scoping Comments (July 20, 2018) and Protest (October 31, 2018);
- March 2019 Scoping Comments (October 19, 2018) and Protest (February 20, 2019); and
- June 2019 Scoping Comments (February 10, 2019) and Draft Environmental Assessment Comments (March 22, 2019).

Because many of parcels at issue in this sale are adjacent to and connected to these past lease sales, all prior administrative engagement is properly before the agency and should be considered and included in the administrative record for this lease sale. 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 Serv., 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.”).
STATEMENT OF REASONS


I. BLM Fails to Comply with NEPA and FLPMA.

To start, BLM fails to comply with the mandates of NEPA and FLPMA.

NEPA is our “basic national charter for protection of the environment.” 40 C.F.R. § 1500.1(a). The law requires federal agencies to fully consider the environmental implications of their actions, taking into account “high quality” information, “accurate scientific analysis,” “expert agency comments,” and “public scrutiny,” prior to making decisions. Id. § 1500.1(b). This consideration is meant to “foster excellent action,” resulting in decisions that are well-informed and “protect, restore, and enhance the environment.” Id. § 1500.1(c).

NEPA regulations explain:

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. Id.

To fulfill the goals of NEPA, federal agencies are required to analyze the “effects,” or impacts, of their actions on the human environment prior to undertaking their actions. Id. § 1502.16(d); Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989) (holding that NEPA imposes “action forcing procedures . . . require[ing] that agencies take a hard look at environmental consequences”) (internal quotations omitted, emphasis added). To this end, the agency must analyze the “direct,” “indirect,” and “cumulative” effects of its actions, and assess their significance. Id. §§ 1502.16(a), (b), and (d). Direct effects include all impacts that are “caused by the action and occur at the same time and place.” Id. § 1508.8(a). Indirect effects are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” Id. § 1508.8(b). Cumulative effects include the impacts of all past, present, and reasonably foreseeable actions, regardless of what entity or entities undertake the actions. Id. § 1508.7.

Generally, an agency may prepare an environmental assessment (“EA”) to analyze the effects of its actions and assess the significance of impacts. See id. § 1508.9; see also 43 C.F.R. § 46.300. Where impacts are not significant, an agency may issue a Finding of No Significant
Impact ("FONSI") and implement its action. See 40 C.F.R. § 1508.13; see also 43 C.F.R. § 46.325(2). But, where effects are significant, an agency must prepare an EIS. See 40 C.F.R. § 1502.3.

Federal agencies are required to 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).

Within an EA or EIS, the scope of the analysis must also include “[c]umulative actions” and “[s]imilar actions.” 40 C.F.R. §§ 1508.25(a)(2) and (3). Cumulative actions include action that, “when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement.” Id. § 1508.25(a)(2). Similar actions include actions that, “when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together.” Id. § 1508.25(a)(3). Key indicators of similarities between actions include “common timing or geography.” Id.

In addition to NEPA, BLM must comply with FLMPA. 43 U.S.C. §§ 1701–1787. FLMPA requires that “[t]he Secretary [of the Interior] shall, with public involvement and consistent with the terms and conditions of this Act, develop, maintain, and, when appropriate, revise land use plans which provide by tracts or areas for the use of the public lands.” 43 U.S.C. § 1712(a).

BLM fulfills this mandate by developing Resource Management Plans (“RMPs”) for each BLM field office. In general, RMPs must be up-to-date. BLM’s Land Use Planning Handbook states that, “[RMP] revisions are necessary if monitoring and evaluation findings, new data, new or revised policy, or changes in circumstances indicate that decisions for an entire plan or a major portion of the plan no longer serve as a useful guide for resource management.” BLM Land Use Planning Handbook, H-1610-1, Section VII.C at 46 (emphasis added); see also 43 C.F.R. § 1610.5-6. Furthermore, the Handbook provides that amendments are needed whenever the BLM must “[c]onsider a proposal or action that does not conform to the plan,” “implement new or revised policy that changes land use plan decisions,” “respond to new, intensified, or changed uses on public land,” or “consider significant new information from resource assessments, monitoring, or scientific studies that change land use plan decisions.” BLM Land Use Planning Handbook, Section VII.B at 45; see also 43 C.F.R. § 1610.5-5.

When the BLM issues a new RMP or amends a RMP, the agency must also comply with the requirements of NEPA. See 43 C.F.R. § 1601.0–6. Thus, BLM is required to issue an EIS with each RMP. Id. Although the BLM may tier its project-level analyses to a broader NEPA
document, such as the EIS accompanying the RMP, 43 C.F.R. § 46.140, “[n]othing in the tiering regulations suggests that the existence of a programmatic EIS . . . obviates the need for any future project-specific EIS, without regard to the nature of magnitude of a project.” Blue Mountains Biodiversity Proj. v. Blackwood, 161 F.3d 1208, 1215 (9th Cir. 1998). Furthermore, “[a] NEPA document that tiers to another broader NEPA document . . . must include a finding that the conditions and environmental effects described in the broader NEPA document are still valid or address any exceptions.” Id. Put another way, “[t]o the extent that any relevant analysis in the broader NEPA document is not sufficiently comprehensive or adequate to support further decisions, the tiered NEPA document must explain this and provide any necessary analysis.” Id. § 46.140(b).

A. BLM’s Shortened Public Comment Process Under BLM IM 2018-034 Fails to Comply with NEPA and FLMPA.

On September 21, 2018, the U.S. District Court for the District of Idaho issued a Memorandum Decision and Preliminary Injunction in Western Watersheds Project v. Zinke, 336 F. Supp. 3d 1204 (D. Idaho 2018) (previously attached to our Feb. 10, 2019 scoping comments as Exhibit 1). This decision enjoins the BLM from implementing parts of BLM Instruction Memorandum 2018-034, which substantially limit and eliminate opportunities for public comment in the oil and gas leasing process. Id. at 1212.

Although the injunction was decided within the context of the greater sage grouse habitat management areas, id. at 1244, its reasoning applies to all oil and gas lease sales authorized under FLMPA and NEPA and completed under BLM IM 2018-034.

Specifically, the court found:

It is well-settled that public involvement in oil and gas leasing is required under FLMPA and NEPA. . . . On a very fundamental level, it strains common sense to see how these requirements are fulfilled when just comparing IM 2018-034 to IM 2010-117. That is, how can it be said that IM 2018-034 provides the required public participation “to the fullest extent possible” and “to the extent practicable,” when it is dramatically more restrictive (at least on the issue of public participation) than the previously-established IM (IM 2010-117) it only recently replaced?

Id. at 1235–36. The court went on to state:

IM 2018-034 jettisoned prior processes, practices, and norms in favor of changes that emphasized economic maximization to the detriment if not outright exclusion of pre-decisional opportunities for the public to contribute to the decisionmaking process affecting the management of public lands. That choice was problematic when considering the Congressional directives for public involvement contained in FLMPA and NEPA and the apparent shortcomings of IM 2018-034 in allowing for public participation in BLM oil and gas leasing decisions.
Id. at 1237–38. The court further concluded that:

[I]n this case, the record contains significant evidence indicating that BLM made an intentional decision to limit the opportunity for (and even in some circumstances to preclude entirely) any contemporaneous public involvement in decisions concerning whether to grant oil and gas leases on federal lands . . . . The evidence illustrates that the intended result of the at-issue decisions was to dramatically reduce and even eliminate public participation in the future decision-making process. Doing so certainly serves to meet the stated “purpose” of IM 2018-034 – that is, reducing or precluding public participation will “streamline the leasing process to alleviate unnecessary impediments and burdens, to expedite the offering of lands for lease . . . .” Yet, the route chosen by BLM to reach that destination is problematic because the public involvement requirements of FLPMA and NEPA cannot be set aside in the name of expediting oil and gas lease sales. The benefits of public involvement and the mechanism by which public involvement is obtained are not ‘unnecessary impediments and burdens.’”

Id. at 1238–39 (emphasis added).

There is no doubt that this decision has implications in New Mexico. Because of the requirements of BLM IM 2018-034, the agency has cut down the time period allotted for scoping comments and protests from 30 days to 10. Indeed, for the June 2019 protest, interested citizens only have 10 days to submit, via mail or hand delivery, a final protest.3 And, up until the June 2019 sale, BLM had completely eliminated a comment period on the draft EA.4 These purposeful actions cutting public participation violate the fundamental purposes of NEPA and FLPMA whether or not the public lands at issue are within sage grouse habitat. And, because the entire process of identifying, reviewing, and offering oil and gas lease sales for the BLM’s June 2019 and subsequent mineral leasing processes is fundamentally compromised by the unlawful provisions of IM 2018-034, we request that BLM defer all parcels in the June 2019 lease sale.

In response to this, BLM argues that it does involve the public in its NEPA process and that it has the discretion to determine how much public involvement occurs. EA at 84. But, BLM fails to directly address the decision discussed above, which specifically found BLM’s current public involvement process to be invalid under NEPA and FLPMA. This decision made clear that BLM has discretion up to a point, and that BLM’s adoption of the significantly reduced public comment process in BLM IM 2018-34—a process which BLM follows here—is illegal under NEPA and FLPMA. Thus, our arguments remain unaddressed and valid.

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B. BLM Cannot Lease the Farmington and Rio Puerco Parcels Until It Amends or Issues New RMPs-EISs.

Beyond public participation issues, BLM cannot lease the June 2019 parcels unless and until it amends and/or issues new RMPs-EIS for the respective field offices.

As noted above, “[l]and use planning forms the basis of, and is essential to, everything that the [BLM] does in caring for America’s public lands.” The duty to develop land use plans stems from FLPMA, which requires that “[t]he Secretary [of the Interior] shall, with public involvement and consistent with the terms and conditions of this Act, develop, maintain, and, when appropriate, revise land use plans which provide by tracts or areas for the use of the public lands.” 43 U.S.C. § 1712(a).

The BLM fulfills this mandate by developing Resource Management Plans (“RMPs”) for each BLM field office. In general, RMPs must be up-to-date. The BLM’s Land Use Planning Handbook states that, “[RMP] revisions are necessary if monitoring and evaluation findings, new data, new or revised policy, or changes in circumstances indicate that decisions for an entire plan or a major portion of the plan no longer serve as a useful guide for resource management.” BLM Land Use Planning Handbook, H-1610-1, Section VII.C at 46 (emphasis added); 43 C.F.R. § 1610.5-6. Furthermore, the Handbook provides that amendments are needed whenever the BLM must “[c]onsider a proposal or action that does not conform to the plan,” “implement new or revised policy that changes land use plan decisions,” “respond to new, intensified, or changed uses on public land,” or “consider significant new information from resource assessments, monitoring, or scientific studies that change land use plan decisions.” BLM Land Use Planning Handbook, Section VII.B at 45; 43 C.F.R. § 1610.5-5.

When the BLM issues a new RMP or amends a RMP, the agency must also comply with the requirements of NEPA. See 43 C.F.R. §§ 1601.0–6. Thus, the BLM is required to issue an environmental impact statement (“EIS”) with each RMP. Id. Although the BLM may tier its project-level analyses to a broader NEPA document, such as the EIS accompanying the RMP, 43 C.F.R. § 46.140, “[n]othing in the tiering regulations suggests that the existence of a programmatic EIS for a forest plan obviates the need for any future project-specific EIS, without regard to the nature of magnitude of a project.” League of Wilderness Defs.–Blue Mountains Biodiversity Proj. v. Blackwood, 161 F.3d 1208, 1215 (9th Cir. 1998). Furthermore, “[a] NEPA document that tiers to another broader NEPA document . . . must include a finding that the conditions and environmental effects described in the broader NEPA document are still valid or address any exceptions.” Id. Put another way, “[t]o the extent that any relevant analysis in the broader NEPA document is not sufficiently comprehensive or adequate to support further decisions, the tiered NEPA document must explain this and provide any necessary analysis.” Id. § 46.140(b).

Here, there are two applicable land use plans for June 2019 lease sale parcels at issue. For the FFO parcels, the 2003 Farmington Resource Management Plan (“2003 RMP”) applies. BLM is in the process of developing, but has not yet completed the proposed Mancos Shale-Gallup Formation RMP Amendment (“Mancos Shale RMPA”). For the RPFO parcels, the applicable plan is the 1986 RMP (updated in 1992). Although the BLM issued a new, draft RMP and EIS for in 2012, the agency has not finalized these documents to date.

### i. BLM Cannot Lease the Farmington Field Office Parcels Without a Final, Updated RMPA and FEIS.

First, because BLM continues to rely on the outdated 2003 FFO RMP and the accompanying EIS, EA at 7, BLM cannot demonstrate that impacts associated with the proposed leasing will not be significant, or that leasing will otherwise sufficiently protect resources in the Farmington Field Office. This is due to the fact that, by the BLM’s own admission, the 2003 RMP-EIS do not account for the environmental impacts of horizontal drilling and multi-stage hydraulic fracturing of the Mancos Shale formation. Yet, by proposing to lease the June 2019 parcels, the BLM is poised to facilitate just this kind of unforeseen development, despite any analysis as to the actual environmental impacts on both project and programmatic level.

NEPA regulations established by the CEQ specifically prohibit an agency from taking any action that could undermine its decisionmaking process while work on a programmatic EIS “is in progress and the action is not covered by an existing program statement.” See 40 C.F.R. § 1506.1(c). Indeed, the intent of NEPA is to study the impact of an action on the environment before the action is taken. See Conner v. Buford, 848 F.2d 1441, 1452 (9th Cir. 1988) (explaining that NEPA requires that agencies prepare an EIS before there is “any irreversible and irretrievable commitment of resources”). “The purpose of an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from their decisions at a time when they ‘retain[] a maximum range of options.’” Id. at 1446. Taking actions in the interim which could limit those options undermines the purpose and effectiveness of the NEPA process.

Furthermore, where an “[i]nterim action prejudices the ultimate decision on the program,” NEPA forbids the action. 40 C.F.R. §§ 1506.1(c)(1)-(3). An action prejudices the outcome “when it tends to determine subsequent development or limit alternatives.” Id. Proceeding to lease two parcels within the FFO—or any other major Federal action impacting resources in the planning area—is impermissible due to the inherent prejudice that this action

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8 The 2012 draft RMP and EIS for the RPFO is available on the BLM’s website at: [https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=92304](https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=92304).

9 The impact of leasing without a complete RMPA is arguably much larger because BLM has leased many more parcels since it acknowledged that the 2003 RMP was inadequate.
will cause to the pending Mancos Shale RMPA. As the BLM has acknowledged: “After a lease has been issued, the lessee has the right to use as much of the leased land as necessary to explore (or drill) for, extract, remove, and dispose of oil and gas deposits located under the leased lands with exceptions for restrictions that may be imposed consistent with the standard lease terms and stipulations and notices attached to the lease.”10 Put simply, when the oil and gas lease rights are conveyed following the sale, lessees have a right to drill, and the impact on the environment from the exercise of those rights cannot be undone. *WildEarth Guardians v. Zinke*, No. 16-1724-RC at 26–27 (D.D.C Mar. 19, 2019) (citing *Sierra Club v. Peterson*, 717 F.2d 1409, 1414 (D.C. Cir. 1983)).11 This is exactly the situation NEPA seeks to protect against—allowing new activity that limits alternatives in the future. Indeed, once this lease sale is held, the agency will no longer be able to consider an alternative in the Mancos Shale RMPA that disallows oil and gas development on these parcels, even if the agency’s subsequent analysis deems this as necessary.

Additionally, although the FFO has asserted in past EAs that any impacts from the lease sale would be “linked to undetermined future levels of lease development,”12 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 RMPA. As the BLM indicated for the March 2018 parcels, leasing is “within the high potential area delineated by the RFDS, where up to 1,600 potential new Mancos/Gallup wells are project to be drilled.”13 As shown below, the parcels for the June 2019 lease sale are directly adjacent to the December 2018 and March 2019 parcels. Clearly, development of the proposed leases for the purpose of developing the Mancos Shale for oil is not speculative. Instead, it is the entire purpose for undertaking proposed leasing.


11 Previously attached to our Mar. 22, 2019 comments on the draft EA as Exhibit 1. Pincites are to the pages of the memorandum opinion.

12 *Id.* at 48

13 *Id.* at 49.
The June 2019 parcels are in orange and the December 2018 and March 2019 parcels are in red. GIS data obtained from BLM.

Therefore, proceeding with the leasing of these parcels will prejudice the pending Mancos Shale RMPA and EIS process, in direct violation of NEPA.

The potential for foreseeable development is underscored by the fact that the BLM has already approved over 350 Application Permits to Drill (“APDs”) into the Mancos Shale, including 30 additional wells since February 6, 2017, and is weighing approval of many more APDs in this area. Even the companies themselves are touting potential development of the Mancos shale. For example, BP announced on August 7, 2017, that it had drilled a natural gas well into the Mancos Shale that would be “a significant new source of U.S. gas supply,” and that “[t]he well averaged 12.9 million cubic feet a day in its first month, the highest output achieved in the San Juan Basin in 14 years.”

A simple map of this area prepared by WildEarth Guardians also confirms the massive scale of development, including wells that appear to target the Mancos shale in the vicinity of the proposed lease parcels. The map demonstrates the June 2019 lease parcels in orange in proximity to all active and new wells in the area. 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.

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Because of these gaps, BLM should implement a moratorium on any new leasing until the Mancos Shale RMP and EIS are completed, see 40 C.F.R. §§ 1506.1(c)(1)–(3). Such a decision is within the discretion of the agency. Courts have confirmed that BLM has broad discretion— and often the responsibility—not to lease public lands for minerals development to safeguard other multiple use, environmental, and human health resources and values. See, e.g., Udall v. Tallman, 380 U.S. 1, 4 (1965); Rocky Mountain Oil & Gas Ass’n v. U.S. Forest Serv. 157 F.Supp.2d 1142, 1144–45 (D. Mont. 2000); New Mexico ex rel. Richardson, 565 F.3d 683, 710 (10th Cir. 2009). BLM’s authority to open these parcels to oil and gas development is derived from the Mineral Leasing Act of 1920, 30 U.S.C. § 181 et seq. Nowhere does the Mineral Leasing Act (“MLA”) mandate that any particular lands be offered for lease. Rather, the Act states generally that “[a]ll lands subject to disposition under this chapter which are known or believed to contain oil or gas deposits may be leased by the Secretary.” 30 U.S.C. § 226(a) (emphasis added). Indeed, more than 90% of available public lands in the FFO have already been leased, thereby precluding the need for more leasing. The BLM should use its discretion to defer, at a minimum, any development of the lease parcels until the underlying RMPs are up-to-date.

Finally, BLM’s decision to move forward with further leasing is especially disrespectful in light of Tribal resolutions calling for a moratorium. In February 2017, the Navajo Nation issued a call for a moratorium on “fracking-related activities such as multi-stage hydraulic fracturing and horizontal drilling and lease sales and permit approvals in the Mancos Shale/Gallup Formation in the Greater Chaco Area until such time as the amendment to the
resource management plan is completed and an environmental impact statement is finalized.”\textsuperscript{16} The All Pueblo Council of Governors also issued a formal resolution calling for a similar moratorium on September 27, 2017.\textsuperscript{17} Although BLM finally acknowledges this dynamic in its June 2019 EA, see FFO EA at 48 (“Based on comments gained during scoping, the general preferences of the local communities near the proposed lease parcels would be to have no new oil and gas leasing until the Farmington Mancos-Gallup Draft RMPA and EIS is finished, tribal consultation has been conducted, and Section 106 requirements of the NHPA have been completed for the broader Chacoan landscape.”), BLM fails to seriously consider deferring the proposed parcels. Indeed, BLM admits that it is still engaging in Section 106 consultation but is still continuing on with leasing. See id. at 51.

Unfortunately, BLM also fails to acknowledge ongoing federal legislative action on this issue. New Mexico’s current congressional delegation just introduced legislation to permanently protect the area from oil and gas.\textsuperscript{18} New Mexico’s past congressional delegation also supported similar legislation. in December 2017, Senators Tom Udall and Martin Heinrich and Representatives Ben Ray Luján and Michelle Lujan Grisham sent a letter to the New Mexico BLM acting state director expressing concern over oil and gas leasing in the Greater Chaco area through the March 2018 lease sale.\textsuperscript{19} New Mexico’s congressional delegation noted that “some of the parcels currently included in the lease sale may not be appropriate [to lease] during this interim period while the Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) are updating the joint Mancos-Gallup Resource Management Plan Amendment (RMPA) and Environmental Impact Statement.” The delegation then urged the BLM to “assure that any parcels leased in March are done so in a way that does not undercut the larger process being conducted in the joint RMPA.” In response, the BLM ended up deferring the sale of all of the March 2018 parcels.\textsuperscript{20}

Specifically, then Secretary of the Interior Zinke directed the BLM to defer the March 8, 2018 oil and gas lease sale so the agency could complete an ongoing cultural analysis necessary to comply with NEPA and the National Historic Preservation Act (“NHPA”), including Section 106 consultations. BLM Acting Director Aden Seidlitz was quoted as saying, “We understand the cultural importance of the area, and the need to gather additional information about this landscape before holding a lease sale. . . . We will continue to work with consulting parties, . . .”

\begin{itemize}
\item \textsuperscript{19} Dec. 19, 2017 Letter from Sens. Tom Udall and Martin Heinrich and Reps. Ben Ray Luján and Michelle Lujan Grisham (previously attached to Citizen Groups’ Feb. 10, 2019 Scoping Comments as Exhibit 4).
\end{itemize}
including tribal and state governments, state and federal agencies and others, as we consider and analyze impacts of oil and gas leasing in the area.”

Despite this, BLM and BIA have not completed the cultural analysis, have not made progress on consultation and have not gathered adequate information concerning impacts to multiple resources in the project area. Therefore, this lease sale needs to be deferred just like the March 2018 sale, per Zinke’s directives and in acknowledgement of NEPA/NHPA deficiencies.

Although BLM notes that it has completed a “June 2019 Oil & Gas Lease Sale, Cultural Resources Records Review and Determination of Effect,” see EA at 11, this document is not included in the June 2019 EA or available online. Thus, the general public has no way of knowing the scope of BLM’s analysis or whether it is complete.

Put simply, the exact same concerns that applied to the March 2018 lease sale still apply to the June 2019 lease sale. The Mancos RMPA is still not complete and BLM has not completed a full cultural resources analysis, therefore moving forward with leasing within the FFO would be entirely disingenuous and in complete violation of NEPA. Thus, any additional leasing must be postponed until the agency completes the Mancos Shale RMPA and EIS.

ii. BLM Cannot Lease the Rio Puerco Field Office Parcels Without a Final RMP and FEIS.

BLM’s move to lease parcels within the Rio Puerco Field Office before completion of the underlying RPFO RMP presents similar concerns as those accompanying the FFO parcels. Because the RPFO is operating under the 1989 RMP, BLM must supplement its current NEPA analysis to ensure new, significant impacts are fully analyzed. BLM must also ensure that its actions in the interim do not prejudice any future alternatives.

As noted above, NEPA requires that, until an agency issues a Record of Decision for a pending NEPA document, “no action concerning the proposal shall be taken which would: (1) have an adverse environmental impact; or (2) limit the choice of reasonable alternatives.” 40 C.F.R. § 1506.1(a)(1), (2). Here, there is no doubt that leasing the parcels could potentially limit BLM’s consideration of alternatives in the final RMP and EIS. For example, based on a map from the draft EIS for the RPFO RMP, BLM’s preferred alternative in the RPFO RMP proposes restricting surface use on some of the lands proposed for lease in the June 2019 lease sale. Indeed, the RPFO previously deferred parcels 105, 106, 107, 108, 109, 110 from the January 2014 oil and gas lease sale because “leasing the parcels would harm resource values and may limit the choice of reasonable alternative actions being considered in the Rio Puerco Draft RMP-EIS.” The January 2014 parcels entirely overlap with the parcels proposed for June 2019 as shown below. As a result, any decision to lease the June 2019 parcels would directly conflict with the preferred action for the proposed RMP and DEIS. This is exactly the situation NEPA

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21 Id.

22 See 2012 RPFO RMP-DEIS, Map 036, Surface Restrictions Leasables Alternative B.

seeks to prevent. 40 C.F.R. § 1506.1(a) (“Until an agency issues a record of decision . . . no action concerning the proposal shall be taken which would: (1) Have an adverse environmental impact; or (2) Limit the choice of reasonable alternatives.”); see also 40 C.F.R. § 1502.2(f) (“Agencies shall not commit resources prejudicing selection of alternatives before making a final decision”); Conner v. Burford, 848 F.2d 1441, 1446 (9th Cir. 1986).

The January 2014 parcels are in light blue. The parcels numbers shown coordinate to these parcels. The June 2019 parcels are in orange. Where the parcels overlap is in turquoise.

The need to postpone additional leasing until the draft RPFO RMP and EIS are finalized is further underscored by a look at the “current” RFDS for the draft RMP and EIS for the RPFO. For example, the BLM completely fails to anticipate the drilling boom within the Mancos Shale area and fails to anticipate any horizontal wells within the RPFO. The same reasoning applies here. Additionally, data from the State of New Mexico Energy, Minerals, and Natural Resources Department demonstrates that industry has drilled new, horizontal wells into the Mancos formation within the last five years within the RPFO. The BLM cannot ignore the

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24 See generally BLM, RPFO, Reasonably Foreseeable Development Scenario For Fluid Mineral Development In the Bureau of Land Management Rio Puerco Field Office (2010), https://eplanning.blm.gov/epl-front-office/projects/lup/64954/78492/89455/Rio_Puerc0_RFDS.pdf. Indeed, it is clear that the BLM copied the RFDS document directly from a Montana BLM document because references to the Montana appear throughout the document. Id. at 5, 21, 31.

25 See id. at 27.

26 NM Oil Conservation Division, Well Report for 30-043-21140 BONANZA #011 [320344], https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/Data/WellDetails.aspx?api=30-043-21140 (last visited Feb,
use of this new technology or otherwise operate under a RPFO RMP-EIS that fails to account for the increased environmental impacts from this type of drilling. Thus, we urge the BLM to postpone leasing the parcels within the RPFO unless and until it completes its draft RMP-EIS.

C. BLM is Required to Prepare an EIS for the June 2019 Lease Sale.

As Citizen Groups have consistently maintained, BLM is required to prepare an environmental impact statement (“EIS”) before the agency can sell the subject parcels at the June 2019 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 All. 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 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) (emphasis in original) (citations omitted).

The significance of a proposed action is gauged based on both context and intensity. 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.” _Id._ § 1508.27(a). Intensity “refers to the severity of impact,” and is determined by weighing ten factors, including “[1] [t]he degree to which the proposed action affects public health or safety,” “[2] [u]nique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas,” “[3] [t]he degree to which the effects on the quality of the human environment are likely to be highly controversial,” “[4] [t]he degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks[,]” and “[5] [w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts.” _Id._ § 1508.27(b)(2)–(5), (7). For this latter factor, “[s]ignificance 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.” _Id._

The first intensity factor under NEPA is “the degree to which the proposed action affects public health and safety.” Here, there is no doubt the proposed action, which would allow for the use of fracking in close proximity to communities and homes, impacts public health and safety.\(^{27}\) These impacts are discussed in more depth below. Thus, BLM must fully analyze and disclose the impacts of fracking in a future EIS.

A similar argument applies to the second and third intensity factors, which require, respectively, a look at the degree to which impacts are highly controversial and the degree to which impacts are highly uncertain or involve unique and unknown risks. Indeed, the situation here is directly similar to the situation in *Center for Biological Diversity v. U.S. Bureau of Land Management*, where the court held that the BLM’s “unreasonable lack of consideration of how fracking could impact development of the disputed parcels . . . unreasonably distort[ed] BLM's assessment of at least three of the ‘intensity’ factors in its FONSI,” including the aforementioned factors. 937 F. Supp. 2d at 1157. Specifically, the court reasoned that fracking was highly controversial based on the possibility of significant environmental degradation, public outcry, and potential threats to health and safety. *Id.* at 1157–58. There is no doubt that similar reasoning applies here. Hydraulic fracturing presents a risk of environmental degradation and oil and gas production in New Mexico often occurs near populated areas, thereby resulting in public outcry and threats to health and safety.\(^{28}\)

Indeed, reports have found “743 instances of all types of oil and gas operations polluting groundwater in New Mexico.”\(^{29}\) Groundwater is the source of drinking water for 90 percent of the state’s residents.\(^{30}\) Recent reporting has also acknowledged a proliferation of “frack hits,” or “downhole communication,” where new horizontal drilling for oil is communicating with both historic and active vertical wells.\(^{31}\) This is a significant safety issue that could result in well blowouts, contamination of water resources, and conflicts over who is responsible for liabilities.

\(^{27}\) See Concerned Health Prof’ls of NY & Physicians for Soc. Responsibility, *Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction)* (5th ed. 2018) (previously attached to Citizen Groups’ Feb. 10, 2019 Scoping Comments as Exhibit 7); Env’t America, *Fracking by the Numbers: Key Impacts of Dirty Drilling at the State and National Level* 13 (2013) (“In New Mexico alone, waste pits from all oil and gas drilling have contaminated groundwater on more than 400 occasions”) (previously attached to Citizen Groups’ Feb. 10, 2019 Scoping Comments as Exhibit 8); see also *BLM Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands*, 80 Fed. Reg. 161,128 (Mar. 26, 2015), https://www.gpo.gov/fdsys/pkg/FR-2015-03-26/pdf/2015-06658.pdf (noting that a final rule regulating fracking on federal land will “provide significant benefits to all Americans by avoiding potential damages to water quality, the environment, and public health”).


\(^{29}\) Env’t America, *Fracking by the Numbers*, supra, at 13.

\(^{30}\) *Id.*

and costs of such impacts. BLM must account for all of these impacts in its draft EA, but fails to do so here.

Although BLM claims that Onshore Order #2 will protect ground water resources, the Citizen Groups are concerned about both groundwater and surface water resources; the frack hits reported above occurred while Onshore Order #2 was in place; and there is evidence that industry commonly does not comply with Onshore Order #2.

In addition, based on the proximity of the June 2019 lease sale parcels to Chaco Culture National Historical Park and within the Greater Chaco Region there is no doubt that the fourth intensity factor—the unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas—is also implicated. Reports have made clear that the cultural resources of the Greater Chaco Region do not stop at the boundaries of the park. And, here, two of the proposed lease parcels are within 20 miles of the Park and many are within 25 miles. Although BLM may argue that there will not be direct impacts to cultural resources, there is no doubt that indirect impacts such as light pollution, noise, air pollution, and destruction of the landscape could impact the overall setting of the Greater Chaco Region.

32 See id.
33 Available online at: https://www.blm.gov/sites/blm.gov/files/energy_onshoreorder2.pdf.
35 Carrie Heitman, Houses Great and Small: Reevaluating the ‘House’ in Chaco Canyon, New Mexico, 72 Anthropology Faculty Pubs. 251,
https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1073&context=anthropologyfacpub (previously attached to Citizen Groups’ Feb. 10, 2019 Scoping Comments as Exhibit 10).
A map of the proximity of FFO and RPFO June 2019 lease sale parcels in relation to Chaco Culture National Historical Park and the Greater Chaco Region’s cultural resources.

Put simply, because neither the FFO nor the RPFO have completed site-specific NEPA analyses, neither office has “put forth a convincing statement of reasons’ that explains why [the June 2019 lease sale] will impact the environment no more than insignificantly.” Ocean Advoc. v. U.S. Army Corps of Engrs., 402 F.3d 846, 864 (9th Cir. 2005) (internal citations omitted). According to the Ninth Circuit, such a statement of reasons is “crucial to evaluating whether the [agency] took the requisite ‘hard look.’” Id. We request a full and complete statement of reasons from BLM before holding the lease sale.

Finally, as discussed in more depth below, BLM has failed to account for the cumulative impacts of its leasing decisions in the region as required by law. WildEarth Guardians v. Zinke, No. 16-1724-RC at 29, 32 (D.D.C Mar. 19, 2019). BLM’s June 2019 lease sale is occurring directly next to its December 2018 and March 2019 lease sale parcels. At a minimum, BLM must consider the wells that will result from these sales in conjunction with the June 2019 parcels and other BLM lease sales in the region. But, BLM has failed to do so here. See EA at 40.

In sum, because BLM has not addressed these potentially significant impacts in its existing EA, BLM must complete an EIS for the June 2019 lease sale as required by NEPA.
D. Because the Underlying RMPs-EISs are Outdated, BLM Cannot Rely on Them to Justify the Proposed Leasing or a Finding of No Significant Impacts.

While both the FFO and RPFO are to be commended for acknowledging the inability of the underlying RMPs-EISs to continue serving their necessary planning function and beginning the RMP amendment and revision process, at the same time, BLM cannot simultaneously rely on these documents justify the June 2019 lease sale. For example, the June EA explicitly tiers to the analysis contained in the FFO 2003 RMP/EIS, which, as explained in the agency’s Federal Register Notice for the Mancos Shale RMPA, 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. 10,548 (Feb. 25, 2014). The inability of the current RMPs-EISs and the Mancos Shale RFDS to support the proposed leasing, or to provide any reasonable analysis from which to tier, is further underscored by the details of its shortcomings.

i. BLM Cannot Rely on the FFO RMP-EIS to Justify a Finding of No Significant Impact.

To start, the 2003 Farmington RMP-EIS never contemplated commercially viable development of the Mancos shale, whether for oil or gas, utilizing horizontal drilling techniques. This is significant because the EA makes clear that the proposed leases are meant to facilitate horizontal drilling of the Mancos Shale. EA at 15. In contrast, the RFDS (which was actually prepared in 2001, two years prior to the adoption of the RMP-EIS) stated:

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.36

In other words, at the time the 2001 RFDS was prepared and the RMP-EIS finalized, horizontal drilling and fracking were not used on a large scale.37

Although the 2001 RFDS38 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 2001 RFDS at 5.27. However, the RFDS contemplated “behind pipe” access to Mancos shale reserves through vertically drilled wells into the Dakota formation. 2001 RFDS at 5.27. In other words, the 2001 RFDS 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 RFDS 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. 2001 RFDS at 5.27. Again, the RFDS did not contemplate horizontal drilling, whether for development or exploration.

BLM has re-affirmed this, noting that 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[S] 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[S] only hinted at its future success and usage.39

In other words, BLM barely analyzed and disclosed the use of horizontal drilling and multi-stage hydraulic fracturing, let alone the environmental impacts of these practices, as required under NEPA. Further, the 2003 FFO RMP and accompanying RFDS failed to sufficiently consider the direct, indirect, and cumulative impacts of this practice or to demonstrate that there would be no significant impacts. Put simply, the 2003 FFO RMP and accompanying RFDS do not demonstrate that the BLM has adequately considered the cumulative impacts of Mancos shale oil or gas development, particularly horizontal drilling and hydraulic fracturing. In light of the shortcomings of the 2003 FFO RMP and RFDS, as well as significant new information demonstrating that the Mancos shale is being targeted for horizontal drilling for gas and oil, both the 2003 RMP and EIS are now inadequate under NEPA.

38 The BLM has revised its RFDS multiple times since 2001, with the latest version issued in 2018. The fact that the BLM felt the need to issue revised RFDSs supports Citizen Groups’ arguments that the 2001 RFDS and 2003 RMP are deficient for failing to anticipate the widespread use of horizontal drilling. Unfortunately for the BLM, the new RFDS cannot cure the agency’s failure to analyze the impacts of horizontal drilling in the 2003 RMP, because the RFDS is not a NEPA document and no other NEPA document fully analyzes the increased impacts to the Greater Chaco Region that will flow from development such as multi-stage hydraulic fracturing and horizontal drilling.
39 BLM, Unconventional Gas Reservoirs, Hydraulic Fracturing, and the Mancos Shale (Nov. 30, 2011) at 6 (previously included as Exhibit 2 in Citizen Groups’ comments from Oct. 27, 2014 on FFO approval of APDs in the Mancos Shale).
Taken together with BLM’s concession that the 2003 RMP & EIS do not address the latest surge in Mancos shale development, it is clear that unless and until the BLM completes the RMP Amendment and EIS, there exists no sufficient environmental considerations of horizontal drilling and fracking of the Mancos shale. Consequently, the BLM cannot rely on the 2003 FFO RMP-EIS to support approval of the proposed leases or any determination that impacts will not be significant.

Finally, the BLM cannot rely on the 2018 RFDS to fulfill its NEPA obligations for the June 2019 lease sale. The 2018 RFDS is simply a projection of the scale of development and does not include any analysis of the impacts of such development. Thus, the 2018 RFDS does not cure the failure of the 2003 RMP/EIS and 2001 RFDS to analyze the impacts of horizontal drilling in the FFO.

**ii. BLM Cannot Rely on the RPFO RMP-EIS to Justify a Finding of No Significant Impact.**

Similar reasoning applies to the BLM’s reliance on the RPFO RMP-EIS. Because the BLM has not finalized the 2012 draft RMP and EIS, it cannot rely on these documents to meet its NEPA requirements. Furthermore, even if BLM could rely on this document, as discussed above, the RPFO RMP-DEIS fails to account for the impacts from multi-stage, hydraulic fracturing, or fracking coupled with horizontal drilling. This leaves the 1986 RMP-EIS and 1992 update as the only valid NEPA documents for the June 2019 lease parcels. Based on the dates of these documents, it is clear that they cannot account for significant changes in the landscape of oil and gas development, including the use of horizontal drilling coupled with fracking. Indeed, a search of both documents reveals no mention of fracking or horizontal drilling.

The most recent RFDS for the RPFO is similarly deficient. As noted above, the document does not anticipate any horizontal wells within the field office. Furthermore, as explained above, the RFDS is not a NEPA document which examines the impacts from the proposed

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40 In light of this, BLM must presume that the lands proposed for leasing are not “available” due to the failure of the 2003 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 2003 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.


43 BLM, RPFO, RFDS, supra, at 20.
action. As a result, the BLM must wait until the 2012 draft RPFO RMP-DEIS is complete before proceeding to lease the June 2019 parcels. See 40 C.F.R. § 1506.1(c).

In response to both of these arguments, BLM argues that its regulations allow for it to continue acting under an existing RMP while a RMP revision is ongoing. But, this presumes that impacts from the proposed actions are sufficiently addressed in the underlying RMPs. This is not the case here, and we do not agree with BLM that the impacts of hydraulic fracturing are consistent with the level of development proposed in the old RMPs. Indeed, courts have acknowledged that increased impacts occur with hydraulic fracturing. See, e.g., Ctr. for Biological Diversity v. Bureau of Land Mgmt., 937 F. Supp. 2d 1140, 1156 (N.D. Cal. 2013) (invalidating BLM lease sale because “the scale of fracking in shale-area drilling today involves risks and concerns that were not addressed by the PRMP/FEIS’ general analysis of oil and drilling development in the area”). Thus, BLM must halt all new leasing in the FFO and RPFOs unless and until the respective RMPs-EISs are complete.

E. BLM Illegally Defers Its Site-Specific Analysis of the Impacts from the Lease Sale to the APD Stage.44

BLM must also analyze the site-specific impacts from the proposed leases before it proceeds with the lease sale. Yet, in multiple sections throughout the EA, BLM has stated its intent to defer NEPA analyses until the application for permit to drill (“APD”) stage. See, e.g., EA at 13–16 (deferring site-specific analyses of soils, recreation, water rights, and migratory birds).

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.” 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 All. v. Hodel, 852 F.2d 1223, 1227 (9th Cir. 1988); WildEarth Guardians v. Zinke, No. 16-1724-RC, 2019 WL 1273181, at *13 (D.D.C Mar. 19, 2019) (accord). 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);

44 BLM does not substantively respond to this argument. See EA at 99.
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 683, 717–18 (10th Cir. 2009). Thus, “[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).

Here, unlike Park County where site-specific impacts were difficult to anticipate, the impacts of leasing parcels are reasonably foreseeable—more than 91% of the FFO planning area has already been leased and expansive oil and gas development has already occurred. Furthermore, the RPFO parcels are within the same formation and area as the FFO parcels. Indeed, for both FOs the agency has identified a reasonably foreseeable development scenario for the area. Thus, impacts are reasonably foreseeable and an EIS assessing the specific effects of oil and gas development from this lease sale is required before leases are conferred to industry.

Moreover, there is no doubt that without NSO stipulations, the leases are irretrievable commitments of resources. According to BLM’s regulations, 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; “[A]gencies 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.” Sierra Club v. Hodel, 848 F.2d 1068, 1093 (10th Cir. 1988); WildEarth Guardians v. Zinke, No. 16-1724-RC, 2019 WL 1273181, at *13 (D.D.C Mar. 19, 2019) (“While it may be true that after the leasing stage BLM can impose conditions to limit and mitigate GHG emissions and other environmental impacts, the leasing stage is the point of no return with respect to emissions. Thus, in issuing the leases BLM “made an irrevocable commitment to allow some ” GHG emissions.”

Indeed, unless there are NSO stipulations covering every parcel—which is not the case here—issuance of the lease confers a right to the resources thereunder. See 43 C.F.R. § 3101.1-2. 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. Id. 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 v. Fry, 310 F.Supp.2d 1127, 1145 (D. Mont., 2004); see also 40 C.F.R. § 1501.2.

In essence, should the BLM refuse to perform site-specific analysis at the lease stage, the 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 this would be an irretrievable commitment of resources at the lease sale stage, the BLM must consider the impacts of its decision to lease parcels before it confers 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 as well as a completed Rio Puerco RMP and FEIS.

The need for a full environmental analysis at the lease sale stage is further supported by NEPA’s regulations regarding cumulative, similar actions. In order 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.

Here, 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 analyze the impacts that will occur if the lease sale occurs and oil and gas development commences.

Finally, the need to do a full NEPA analysis at the lease sale stage is further supported by the fact that the BLM frequently does not complete a NEPA analysis at the APD stage. Instead, the BLM consistently approves additional APDs through Determinations of NEPA Adequacy (“DNAs”) where no additional NEPA analysis occurs.45 Evidently, unless the BLM actually

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commits, through the imposition of a stipulation or stipulations, to conduct additional NEPA analysis at the drilling stage, it more often than not does not happen. This means that any commitment to address the impacts development of the proposed leases through subsequent NEPA is, at best, hollow, and at worst, a deliberate attempt to avoid accountability to addressing potentially significant environmental impacts under NEPA.

F. BLM Fails to Analyze a Range of Reasonable Alternatives.

NEPA requires federal agencies to identify and assess reasonable alternatives to the proposed action that will “avoid or minimize adverse effects” of the action on the quality of the human environment. 40 C.F.R. § 1500.2; 42 U.S.C. § 4332(C)(iii), (E). An alternatives analysis is the “heart” of a EIS. 40 C.F.R. § 1502.14. BLM is required to “rigorously explore and objectively evaluate all reasonable alternatives” to the proposed action in comparative form, so as to provide a “clear basis for choice among the options” open to the agency. Id. BLM must identify and analyze its preferred alternative, as well as a “no action” alternative that would occur if the agency elected to maintain the current state of affairs unchanged. Id. Additionally, the agency should address all other reasonable alternatives to the proposed action. See Colorado Envtl. Coal. v. Salazar, 875 F. Supp. 2d 1233, 1245 (D. Colo. 2012). As the Tenth Circuit has explained, “[w]ithout substantive, comparative environmental impact information regarding other possible courses of action, the ability of [a NEPA analysis] to inform agency deliberation and facilitate public involvement would be greatly degraded.” N.M. ex rel Richardson v. BLM, 565 F.3d 683, 708 (10th Cir. 2009). BLM regulations echo this requirement and specify that the agency “will consider all reasonable resource management alternatives and develop several complete alternatives for detailed study. . . . The alternatives developed shall reflect the variety of issues and guidance applicable to the resource uses.” 43 C.F.R. § 1610.4-5.

Courts apply a “rule of reason” to determine whether a NEPA analysis considered sufficient alternatives. N.M. ex rel Richardson, 565 F.3d at 709 (citing Westlands Water Dist. v. U.S. Dep’t of the Interior, 376 F.3d 853, 868 (9th Cir. 2004)). Importantly, alternatives are required both in an EIS and in an EA in particular where a proposed action “involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. §§ 4332(2)(C)(iii), 4332(2)(E). The reasonableness of the alternatives considered is measured against two guideposts. First, when considering agency actions taken pursuant to a statute, an alternative is reasonable only if it falls within the agency’s statutory mandate. Westlands, 376 F.3d at 866. Second, reasonableness is judged with reference to an agency’s objectives for a particular project. See Colorado Envtl. Coal. v. Dombeck, 185 F.3d 1162, 1174–75 (10th Cir. 1999); Simmons v. U.S. Army Corps of Eng’rs, 120 F.3d 664, 668–69 (7th Cir. 1997); Idaho Conservation League v. Mumma, 956 F.2d 1508, 1520 (9th Cir. 1992).

While oil and gas is undoubtedly an element of the BLM’s statutory multiple use mandate provided by FLPMA, BLM is not obliged to accommodate every use on every piece of land; rather, delicate balancing is required to further the public interest in the management of the public lands. 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 the Tenth Circuit teaches:

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

Indeed, a federal district court recently invalidated a BLM alternatives analysis because of “BLM’s failure to consider any alternative that would decrease the amount of extractable coal available for leasing[.]” Western Org. of Resource Councils v. U.S. Bureau of Land Mgmt., CV 16-21-GF-BMM, 2018 WL 1475470, at *9 (D. Mont. Mar. 26, 2018) (“WORC”). The court reasoned that because BLM’s statutory mandate included “take[ing] into account the long-term needs of future generations for renewable and nonrenewable resources,” the agency could have eliminated coal from its available leasing. Id. at *7.

Here, for both the FFO and the RPFO parcels, BLM only analyzes two extreme alternatives, leasing all parcels or leasing no parcels. See FFO EA at 19–20, RPFO EA at 22–25. But, NEPA requires agencies to “present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.” 40 C.F.R. § 1502.14 (emphasis added). Indeed, in March of 2018, a federal district court held that “BLM’s failure to consider any alternative that would decrease the amount of extractable coal available for leasing rendered inadequate the Buffalo EIS and Miles City EIS in violation of NEPA.” Western Org. of Resource Councils v. U.S. Bureau of Land Mgmt., CV 16-21-GF-BMM, 2018 WL 1475470, at *9 (D. Mont. Mar. 26, 2018). In Wilderness Workshop v. U.S. Bureau of Land Management, the court
found that BLM failed to consider reasonable alternatives to oil and gas leasing and development by omitting any option that would meaningfully limit oil and gas leasing and development within the planning area. 342 F. Supp. 3d 1145, 1153 (D. Colo. 2018). Specifically for both sets of parcels, BLM must consider a reasonable range of alternatives that meaningfully limits the proposed acreage for leasing in order to address concerns such as climate change and cultural resources.

i. **BLM Must Consider A Climate Mitigation Alternative.**

As discussed in more depth, the science is unequivocal—our world is warming and federal public lands are a significant source of the U.S’s GHG emissions. Thus, BLM must consider a climate mitigation alternative—whether to inform the choice to select the “no action” alternative and thereby keep fossil fuels in the ground or to inform an action alternative, to issue leases subject to greenhouse gas emissions reduction stipulations, to issue leases only where the agency demonstrates a net economic benefit in the public interest through use of the social cost of carbon, or to issue leases that are aligned with the Paris Climate Agreement’s—and science’s—2.0 or 1.5 degree Celsius temperature guardrails.

Climate change has fundamentally altered the paradigm of public lands management—a reality reflected in national policy as well as international commitments—but long ignored by BLM in its management of the planning area. The business-as-usual approach fails to meet the needs of present and future generations—the agency’s core mandate in managing public lands and minerals. 43 C.F.R. § 1702(c). Both science and common sense dictate that perpetuating a management approach which has substantially contributed to climate change is no longer sufficient. The agency must consider alternatives that are responsive to this reality, including alternatives that consider and directly address the agency’s substantive mandates.

Every ton of carbon dioxide added to the atmosphere worsens climate change. Accordingly, any additional oil and gas production permitted on BLM land managed by the agency and the combustion of those fossil fuels will worsen climate change. Due to the urgent need to protect mankind and federal public lands from the potentially devastating impacts of catastrophic global warming, BLM must consider and analyze an additional alternative that includes climate-change mitigation requirements. BLM’s cursory treatment of the no action alternative, and failure to consider any other alternatives that would address the climate impacts of leasing, violate its duties under both NEPA and FLPMA.

ii. **BLM Must Consider An Alternative the Assesses the True Costs of the Lease Sale, Including Projected Energy Demands, International Finance, and Stranded Assets.**

The longer climate action is delayed the more expensive it becomes to avoid each additional ton of GHG emissions. Thus, we request that BLM consider an alternative that assesses the actual cost of the lease sale by accounting for projected energy demands, international finance, and stranded assets.
The world’s energy needs continue to grow, with projections of a 30% rise in global energy demand to 2040. According to a 2013 International Energy Agency (“IEA”) Report, for this increasing demand to be met, a cumulative $48 trillion in investment is needed in global energy supply, of which 60% is comprised of fossil fuels and nearly 20% to renewables, with an additional $23 trillion invested in improvements in energy efficiency. But, in order to meet climate goals, a major reallocation of investment capital going to the energy sector would be needed, requiring an estimated $40 trillion in cumulative energy supply investment moving away from fossil fuels and toward renewables. The more ambitious target of limiting warming to less than 1.5°C demands net-zero emissions between 2040 and 2060, a goal that would require radical near-term reductions in energy sector CO\textsubscript{2} emissions.

The liability exposure from not acting is enormous, with one study finding cumulative “lost” GDP from the impacts of climate change equating to $44 trillion. Yet, the IEA finds that investment decisions being made today are not consistent with a 2°C climate goal and are not aimed at creating infrastructure that is sufficiently resilient to withstand the increased physical risks that are expected to result from future climate change, noting “[O]ur current energy infrastructure has already ‘locked-in’ future carbon-dioxide emissions.” According to IEA, as of 2013, emissions from existing global fossil fuel energy infrastructure already represented four-fifths, or 550 GtCO\textsubscript{2}, of the total volume of CO\textsubscript{2} emissions that the earth can accommodate under a 2°C trajectory; by 2017, energy infrastructure now locks in the entire remaining carbon budget to 2035. From this point forward, far more costly actions are going to be required to subsequently undo the lock-in effect, and every additional investment in the energy sector committed to fossil fuels would become stranded assets under policies to achieve a 2°C pathway.

At the same time, IEA found that the capital expenditures required to maintain current energy sector demand for fossil fuels have more than doubled since 2000, to $950 billion annually. In the face of these increasing capital requirements, there is growing awareness of significant financial exposure for individual companies from the possible future stranding of new fossil fuel investments. For example, one study finds that among major oil and gas companies, the estimated cost of stranded assets over the next decade ranges from $21.5 billion for

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48 Id. at 5.
49 Id. at 5.
50 Exhibit 7, Citi, Energy Darwinism II: Why a Low Carbon Future Doesn’t Have To Cost the Earth 8 (2015).
52 Id. at 98.
53 Id. at 99.
54 Id. at 113.
55 IEA 2014, supra, at 51, 52.
ConocoPhillips to $76.9 billion for Shell. Nevertheless, the global capital markets have yet to internalize these risks and charge premiums that would steer investment towards renewable energy.

In sum, the IEA has found that, “[a]nalysis of the entire energy system shows that delaying action on climate change is a false economy. Investments of around $1.5 trillion are avoided in the period to 2020, but an additional $5 trillion of investments are required between 2020 and 2035.” If global energy investment continues on its current course, there will be over $2 trillion in investment in energy sources that will emit around 156 GtCO₂ of emissions over the 2°C target of 593 GtCO₂. IEA found the following regarding fossil fuel demand to 2035, under a 2°C pathway:

- For coal, zero additional capital investment is needed, as production from existing coal mines would exceed demand.
- For gas, approximately $460 billion—or over 40% of anticipated capital expenditures—is unneeded, resulting in 9.3 GtCO₂ of avoided emissions.
- For oil, it is projected that demand peaks around 2020, resulting in a 940 - 1,010 billion barrel surplus of proven reserves and corresponding avoided capital expenditures of nearly $1.5 trillion, avoiding 27.6 GtCO₂ of emissions.

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57 IEA 2013, supra, at 114.
Unneeded capital expenditures to 2025 and related CO₂ to 2035 under a 2°C pathway

It is cheaper for the world to address climate change than bear its economic consequences. As detailed above, there are enough coal, oil and gas reserves that are technically recoverable to equal up to 7,120 GtCO₂ of emissions.⁶² According to one study, only a portion of this carbon is already locked-in—i.e., total reserves held by fossil fuel companies and state owned assets—but this ‘embedded’ carbon still amounts to 2,860 GtCO₂—already enough to take us beyond 3°C of warming.⁶³ As such, the researchers concluded that only 20% of these fossil fuel reserves can be burned to 2050 if the world is to have a chance of not exceeding global warming of 2°C.⁶⁴

CitiGroup found that the total coal, oil and gas reserves listed on the world’s stock exchanges equaled 762 GtCO₂ in 2013—an amount that continues to grow.⁶⁵

As provided by Citigroup in a warning to investors:

Emissions contained in current ‘reserves’ figures are around three times higher than the so called ‘carbon budget’. Some studies suggest that globally a third of oil reserves, half of gas reserves and over 80% of current coal reserves would have to remain unused from 2010 to 2050 in order to have a chance of meeting the 2°C target. In financial terms, we estimate that the value of unburnable reserves could amount to over $100 trillion out to 2050.⁶⁶

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⁶² IPCC AR5, infra, at Table 7.2.
⁶⁴ Id. at 4.
⁶⁵ Id. at 4.
⁶⁶ Citi, supra, at 82.
The longer climate action is delayed the more expensive it becomes to avoid each additional ton of GHG emissions, and the more capital expenditures will become stranded. In other words, climate action is directly tied to economic resilience, and the longer action is delayed the larger the financial risk. This is not only a problem for the fossil fuel industry, but for our economy and the wellbeing of our communities. These financial implications also bear directly on BLM’s decisionmaking relative to the leasing and development of our public lands for fossil fuel resources. Not only does each additional acre leased and well authorized contribute to society’s collective carbon burden, but inherent financial risk and market instability has far reaching implications for public lands remediation. Thus, we request that BLM consider an alternative that estimates the true costs of fossil fuel lock-in and the climate and financial pitfalls that will result.

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

NEPA imposes “action forcing procedures … require[ing] that agencies take a hard look at environmental consequences.” Methow Valley Citizens Council, 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.” Id. § 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).

67 IEA 2014, supra, at 43.
i. **BLM Fails to Consider Recent Climate Science.**

NEPA requires BLM to consider existing, new, and revised climate science now available and which provides more accurate projections of climate impacts at a global, national, and regional level. See 40 C.F.R. §§ 1500.1 (requiring “high quality information” and “accurate scientific analysis”). Significant advances in the scientific understanding of climate impacts have been made in the past few years. But, because the agency relies on the outdated Air Resources Technical Report from March 2018 to support its decision to lease the June 2019 parcels, BLM fails to account for this significant, updated science.

It is well-established that climate change is being fueled by the human-caused release of greenhouse gas emissions, in particular carbon dioxide and methane. Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are recognized as the key greenhouse gases contributing to climate change. In 2009, the EPA found that these “six greenhouse gases taken in combination endanger both the public health and the public welfare of current and future generations.”68 The D.C. Circuit has upheld this decision as supported by the vast body of scientific evidence on the subject. See Coal. for Responsible Regulation, Inc. v. EPA., 684 F.3d 102, 120-22 (D.C. Cir. 2012).

The Intergovernmental Panel on Climate Change (“IPCC”) is a Nobel Prize-winning scientific body within the United Nations that reviews and assesses the most recent scientific, technical, and socio-economic information relevant to our understanding of climate change. In one of its reports to policymakers in 2014, the IPCC provided a summary of our understanding of human-caused climate change. Among other things, the IPCC stated:

- 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.

- Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.

- Anthropogenic greenhouse gas emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. This has led to atmospheric concentrations of carbon dioxide, methane, and nitrous oxide that are unprecedented in at least the last 800,000 years. Their effects, together with those of other anthropogenic drivers, have been detected throughout the climate system and are extremely likely to have been the dominant cause of the observed warming since the mid-20th century.

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• In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans. Impacts are due to observed climate change, irrespective of its cause, indicating the sensitivity of natural and human systems to changing climate.

• 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.

• Surface temperature is projected to rise over the 21st century under all assessed emission scenarios. It is very likely that heat waves will occur more often and last longer, and that extreme precipitation events will become more intense and frequent in many regions. The ocean will continue to warm and acidify, and global mean sea level will continue to rise.69

Just recently, the IPCC reaffirmed the severe impacts from climate change and that rapid action away from fossil fuels is needed if we are to limit the impacts of climate change. It found that human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels, and that warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.70 The IPCC also found that “impacts on natural and human systems from global warming have already been observed.” Additional warming will likely lead to further impacts according to the IPCC, including:

• Warming of extreme temperatures in many regions. The number of hot days is projected to increase in most land regions;
• Increases in frequency, intensity, and/or amount of heavy precipitation in several regions;
• Increase in intensity or frequency of droughts in some regions;
• Rise in global mean sea level, which could potentially expose millions of people to related risks including increased saltwater intrusion, flooding and damage to infrastructure;
• Impacts on biodiversity and ecosystems, including species loss and extinction, associated with forest fires, the spread of invasive species, transformation of ecosystems from one type to another, loss of geographic range, and other climate related changes;
• Increases in ocean temperature as well as associated increases in ocean acidity and decreases in ocean oxygen levels, and resultant risks to marine biodiversity, fisheries, and ecosystems, and their functions and services to humans;

• Shifting the ranges of many marine species to higher latitudes, increasing the amount of damage to many ecosystems; loss of coastal resources and reduced productivity of fisheries and aquaculture; irreversible loss of many marine and coastal ecosystems;
• Ocean acidification-driven impacts to the growth, development, calcification, survival, and thus abundance of a broad range of species;
• Risks to fisheries and aquaculture via impacts on the physiology, survivorship, habitat, reproduction, disease incidence, and risk of invasive species;
• Disproportionately higher risk of adverse consequences to certain populations, including disadvantaged and vulnerable populations, some indigenous peoples, and local communities dependent on agricultural or coastal livelihoods. Poverty and disadvantage are expected to increase in some populations as global warming increases;
• Negative consequences for human health including heat-related morbidity and mortality, ozone-related mortality, amplified impacts of heatwaves in cities resulting from urban heat islands, and increased risks from some vector-borne diseases, such as malaria and dengue fever, including potential shifts in their geographic range;
• Net reductions in yields of maize, rice, wheat, and potentially other cereal crops, particularly in sub-Saharan Africa, Southeast Asia, and Central and South America, and in the CO2-dependent nutritional quality of rice and wheat;
• Potential adverse impacts to livestock, depending on the extent of changes in feed quality, spread of diseases, and water resource availability.

The 2018 U.S. Global Change Research Program (“USGCRP”) Fourth National Climate Assessment (“NCA4”) found, “that the evidence of human-caused climate change is overwhelming and continues to strengthen, that the impacts of climate change are intensifying across the country, and that climate-related threats to Americans’ physical, social, and economic well-being are rising.”71 Like the IPCC, the authors of NCA4 found that impacts are already occurring, concluding that “[t]he impacts of global climate change are already being felt in the United States and are projected to intensify in the future —but the severity of future impacts will depend largely on actions taken to reduce greenhouse gas emissions and to adapt to the changes that will occur.” Specifically, for the Southwest region, which includes Arizona, California, Colorado, New Mexico, Nevada, and Utah, NCA4 found that:

• Climate change is altering ecosystems and their services through major vegetation shifts and increases in the area burned by wildfire;
• Water resources can be scarce because of the arid conditions of much of the Southwest and the large water demands of agriculture, energy, and cities. Water supplies change with year-to-year variability in precipitation and water use, but increased evapotranspiration due to higher temperatures reduces the effectiveness of precipitation in replenishing soil moisture and surface water;

• Greenhouse gases emitted from human activities have increased global average temperature since 1880 and caused detectable warming in the western United States since 1901. The average annual temperature of the Southwest increased 1.6°F (0.9°C) between 1901 and 2016. Moreover, the region recorded more warm nights and fewer cold nights between 1990 and 2016, including an increase of 4.1°F (2.3°C) for the coldest day of the year. Parts of the Southwest recorded the highest temperatures since 1895, in 2012, 2014, 2015, 2016, and 2017;
• Extreme heat episodes in much of the region disproportionately threaten the health and well-being of individuals and populations who are especially vulnerable;
• Communicable diseases, ground-level ozone air pollution, dust storms, and allergens can combine with temperature and precipitation extremes to generate multiple disease burdens;
• Native Americans are among the most at risk from climate change, often experiencing the worst effects because of higher exposure, higher sensitivity, and lower adaptive capacity for historical, socioeconomic, and ecological reasons. With one and a half million Native Americans, 182 federally recognized tribes, and many state-recognized and other non-federally recognized tribes, the Southwest has the largest population of Indigenous peoples in the country. Over the last five centuries, many Indigenous peoples in the Southwest have either been forcibly restricted to lands with limited water and resources or struggled to get their federally reserved water rights recognized by other users. Climate change exacerbates this historical legacy because the sovereign lands on which many Indigenous peoples live are becoming increasingly dry;
• Climate change affects traditional plant and animal species, sacred places, traditional building materials, and other material cultural heritage. The physical, mental, emotional, and spiritual health and overall well-being of Indigenous peoples rely on these vulnerable species and materials for their livelihoods, subsistence, cultural practices, ceremonies, and traditions;
• In parts of the region, hotter temperatures have already contributed to reductions of seasonal maximum snowpack and its water content over the past 30–65 years, partially attributed to human-caused climate change;
• The increase in heat and reduction of snow under climate change have amplified recent hydrological droughts (severe shortages of water) in California, the Colorado River Basin, and the Rio Grande.

Both the IPCC and National Climate Assessment, respectively, recognize the dominant role of fossil fuels in driving climate change:

\[ \text{CO}_2 \text{ emissions from fossil fuel combustion and industrial processes contributed about 78\% to the total GHG emission increase between 1970 and 2010, with a contribution of similar percentage over the 2000–2010 period (high confidence).} \]

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Many lines of evidence demonstrate that human activities, especially emissions of

72 IPCC AR5 Synthesis Report, supra, at 46.
greenhouse gases from fossil fuel combustion, deforestation, and land-use change, are primarily responsible for the climate changes observed in the industrial era, especially over the last six decades.\footnote{NCA4, supra.}

Research shows that fossil fuels produced from U.S. federal lands are already a significant source of GHG emissions. An October 2018 analysis from the U.S. Geological Survey (“USGS”)—a report which BLM fails to consider—found that:

Nationwide emissions from fossil fuels produced on Federal lands in 2014 were 1,279.0 million metric tons of carbon dioxide equivalent (MMT CO2 Eq.) for carbon dioxide (CO2), 47.6 MMT CO2 Eq. for methane (CH4), and 5.5 MMT CO2 Eq. for nitrous oxide (N2O). Emissions from fossil fuels produced on Federal lands represent, on average, 23.7 percent of national emissions for CO2, 7.3 percent for CH4, and 1.5 percent for N2O over the 10 years included in this estimate.\footnote{Exhibit 11, Merrill, M.D. et al., 2018, Federal Lands Greenhouse Emissions and Sequestration in the United States—Estimates for 2005–14: U.S. Geological Survey Scientific Investigations Report 2018–5131 at 6 https://doi.org/10.3133/sir20185131 (hereinafter Merrill et al.)}

These reports underscore that enormous and rapid cuts in GHG emissions are needed to meet climate goals. IPCC’s Special Report on 1.5°C estimated a remaining budget from the start of 2018 of approximately:

- 420 GtCO2 for a two thirds chance of limiting warming to 1.5°C;
- 580 GtCO2 for a 50 percent chance of limiting warming to 1.5°C;
- 1170 GtCO2 for a two thirds chance of limiting warming to 2°C; and,

\textbf{In order to meet these targets, global CO2 emissions would need to reach net zero in about 30 years to stay within a 580 GtCO2 budget, reduced to 20 years for a 420 GtCO2 budget.}

The recent Oil Change International report support this conclusion. It found that using existing fossil fuel reserves would again push the world far beyond warming or 1.5°C and 2°C.\footnote{Kelly Trout & Lorne Stockman, Oil Change International, \textit{Drilling Toward Disaster: Why U.S Oil & Gas Expansion is Incompatible with Climate Limits}, 1, 6, 11 (Jan. 2019), http://priceofoil.org/2019/01/16/report-drilling-towards-disaster/ (previously attached to Citizen Groups’ Feb. 10, 2019 Scoping Comments as Exhibit 19).}
• Between now and 2030, the United States is on track to account for 60 percent of world growth in oil and gas production, expanding extraction at least four times more than any other country. This is the time period over which climate scientists say global carbon dioxide (CO2) emissions should be roughly halved to stay in line with the 1.5°C target in the Paris Agreement.
• Between 2018 and 2050, the United States is set to unleash the world’s largest burst of CO2 emissions from new oil and gas development (Figure ES-2). U.S. drilling into new oil and gas reserves – primarily shale – could unlock 120 billion metric tons of CO2 emissions, which is equivalent to the lifetime CO2 emissions of nearly 1,000 coal-fired power plants.
• **If not curtailed, U.S. oil and gas expansion will impede the rest of the world’s ability to manage a climate-safe, equitable decline of oil and gas production.** We find that, under an illustrative 1.5°C pathway for oil and gas taken from the Intergovernmental Panel on Climate Change (IPCC), U.S. production would exhaust nearly 50 percent of the world’s total allowance for oil and gas by 2030 and exhaust more than 90 percent by 2050.
• Nearly 60 percent of the 120 billion tons of CO2 emissions unlocked by new U.S. oil and gas drilling from 2018 to 2050 is set to come from the Permian and Appalachian Basins (Figure ES-3).
• The CO2 pollution enabled by oil and gas production in the Permian Basin from 2018 through 2050 could exhaust close to 10 percent of the entire world’s carbon budget for staying within 1.5°C of warming. By its projected peak year of production, 2029, the Permian Basin could see nearly as much oil extraction as Saudi Arabia does today.

As a result of these reports, BLM must seriously consider and discuss the benefits of no new oil and gas leasing. Because federal lands account for 25% of the U.S.’s GHG emissions, such an approach could be a very significant part of U.S. efforts to address climate change. Simply put, the timeframe to avoid catastrophic climate change is short, and the management of our federal minerals is dangerously out of step with this reality.

Finally, BLM must consider that undeveloped federal lands are also a critical carbon sink. The USGS found that in 2014, Federal lands of the conterminous United States stored an estimated 83,600 MMT CO2 Eq., in soils (63 percent), live vegetation (26 percent), and dead organic matter (11 percent). In addition, the USGS estimated that Federal lands “sequestered an average of 195 MMT CO2 Eq./yr between 2005 and 2014, offsetting approximately 15 percent of the CO2 emissions resulting from the extraction of fossil fuels on Federal lands and their end-use combustion.” In assessing climate impacts, BLM must disclose and analyze not only the emissions from oil and gas development and use, but also the potential for loss of carbon storage if leasing and development of fossil fuels leads to the degradation of these crucial carbon sinks.

In short, research shows that vastly more fossil fuel reserves exist than can be burned to stay within safe climate limits. U.S. federal fossil fuel resources alone are a potentially enormous source of GHG emissions, and federal lands are also an important carbon sink that must not be

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77 Merrill et al., supra.
degraded. In order to fulfill its obligations under NEPA, BLM must at a minimum consider all the factors discussed above when assessing the impact of leasing on climate change, including actually analyzing the impacts of a no new leasing alternative to account for recent reporting requiring the U.S. to take climate action now.

H. BLM Fails to Take a “Hard Look” at the Site-Specific, Direct and Indirect Greenhouse Gas Emissions That Will Result from the Proposed Action.

Beyond including recent climate science, BLM must also analyze the site-specific, direct and indirect greenhouse gas emissions that will result from leasing the June 2019 parcels in detail, including quantifying drilling-related greenhouse gas emissions in the aggregate, using exiting emissions calculators to quantify indirect emissions, quantifying cumulative impacts and emissions, and assessing the significance of each of these categories. 40 C.F.R. §§ 1502.16 (outlining what is required in an impacts analysis), 1508.7 (defining cumulative impacts), 1508.8 (defining direct and indirect impacts); Western Org. of Res. Councils v. U.S. Bureau of Land Mgmt., CV 16-21-GF-BMM, 2018 WL 1475470, (D. Mont. Mar. 26, 2018) (requiring quantification of indirect GHG emissions at the resource management plan stage); Sierra Club v. Fed. Energy Regulatory Comm’n, 867 F.3d 1357, 1374 (D.C. Cir. 2017) (requiring quantification of indirect GHG emissions burned as a result of a natural gas pipeline); Center for Biological Diversity v. National Highway Traffic. Admin., 538 F.3d 1172, 1215 (9th Cir. 2008) (requiring assessment of the cumulative impacts of climate change from a proposed rule); San Juan Citizens All. v. United States Bureau of Land Mgmt., 326 F. Supp. 3d 1227, 1244 (D.N.M. 2018) (requiring an analysis of the direct, indirect, and cumulative GHG emissions at the oil and gas lease sale stage); WildEarth Guardians v. Zinke, No. CV 16-1724 (RC) 2019 WL 1273181 (D.D.C Mar. 19, 2019) (requiring a robust analysis of the direct and indirect climate impacts from nine lease sales as well a quantitative, regional and national cumulative impacts analysis of reasonably foreseeable actions such as BLM lease sales).

The CEQ has recognized the unique nature of climate change and the challenges it imposes on NEPA compliance. Thus, it has provided relevant guidance on calculating emissions and assessing significance. The Final Guidance applies to all proposed federal agency actions, “including land and resource management actions.” Specifically, the CEQ notes:

Climate change results from the incremental addition of GHG emissions from millions of individual sources, which collectively have a large impact on a global scale. CEQ recognizes that the totality of climate change impacts is not attributable to any single action, but are exacerbated by a series of actions


79 Id. at 9.
including actions taken pursuant to decisions of the Federal Government. Therefore, a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA. Moreover, these comparisons are also not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations because this approach does not reveal anything beyond the nature of the climate change challenge itself: the fact that diverse individual sources of emissions each make a relatively small addition to global atmospheric GHG concentrations that collectively have a large impact.80

More recently, on March 19, 2019, the U.S. District Court for the District of Columbia issued a Memorandum Opinion in *WildEarth Guardians v. Zinke*, No. CV 16-1724 (RC), 2019 WL 1273181 (D.D.C. Mar. 19, 2019) providing further elucidation on what NEPA requires for climate analyses.81 In it, the court struck down nine BLM NEPA analyses in support of five oil and gas lease sales held in Wyoming between May 2015 and August 2016. The court held that “BLM did not take a hard look at drilling-related and downstream [greenhouse gas] emissions from the leased parcels and, it failed to sufficiently compare those emissions to regional and national emissions.” *Id.* at 22. Although the ruling was issued within the context of oil and gas lease sales in Wyoming, the case involves 11 oil and gas lease sales totaling more than 460,000 acres of land across Colorado, Utah, and Wyoming. Moreover, because BLM has continued to rely on similarly flawed NEPA analyses since the lease sales at issue in the decision, the court’s ruling has significant implications for additional lease sales across the West, including in New Mexico.

To start its opinion, the court first re-affirmed that oil and gas leasing is an irrevocable commitment of resources and that BLM must analyze the impacts of greenhouse gas emissions before making that commitment. *Id.* at 24. Indeed, the court found:

> While it may be true that after the leasing stage BLM can impose conditions to limit and mitigate GHG emissions and other environmental impacts, the leasing stage is the point of no return with respect to emissions. Thus, in issuing the leases BLM “made an irrevocable commitment to allow some” GHG emissions. BLM was therefore required to fully analyze the reasonably foreseeable impacts of those emissions at the leasing stage.

*Id.* at 27 (emphases in original) (internal citations omitted) (quoting *Sierra Club v. Peterson*, 717 F.2d 1409, 1414 (D.C. Cir. 1983)).

Building on this conclusion, the court also held that “BLM failed to take a hard look at the environmental impacts of leasing because it failed to quantify and forecast aggregate GHG

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80 *Id.* at 10-11.

81 Opinion previously attached as Exhibit 1 to our Mar. 22, 2019 comments on the draft EA. Pin cites are to the pages of the attached exhibit.
emissions from oil and gas development.” *Id.* at 36. The court specifically rejected three arguments proffered by the BLM and industry intervenors claiming that: 1) BLM was not required to quantify direct GHG emissions at the leasing stage; 2) BLM’s qualitative climate analysis was sufficient to meet its obligations under NEPA; and 3) because BLM’s analyses tiered to land use planning analyses, this was also sufficient to meet the agency’s obligations under NEPA. *Id.* at 33–35.

The court found BLM’s indirect greenhouse gas emissions analyses similarly lacking, holding that “[e]ven under the heightened causation standard established by *Public Citizen* and *Sierra Club (Freeport)*, downstream GHG emissions from fossil fuel use are an indirect effect of BLM’s oil and gas leasing program at issue here.” *Id.* at 38 (citing *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 757 (2004) and *Sierra Club v. FERC*, 827 F.3d 36, 46 (D.C. Cir. 2016)). The court then concluded that BLM’s indirect GHG emission analyses lacked detail and ordered BLM to “strengthen its discussions,” including consideration of quantification of indirect emissions. *Id.* at 42.

With regard to cumulative climate impacts, the court agreed with environmental plaintiffs’ argument that “BLM’s refusal to quantify GHG emissions rendered the EAs’ cumulative impacts analyses inadequate.” *Id.* at 44. It found:

*[NEPA] does [] require that BLM quantify the emissions from each leasing decision—past, present, or reasonably foreseeable—and compare those emissions to regional and national emissions, setting forth with reasonable specificity the cumulative effect of the leasing decision at issue. To the extent other BLM actions in the region—such as other lease sales—are reasonably foreseeable when an EA is issued, BLM must discuss them as well.*

*Id.* at 45 (emphasis added). The court reasoned that “[g]iven the national, cumulative nature of climate change, *considering each individual drilling project in a vacuum deprives the agency and the public of the context necessary to evaluate oil and gas drilling on federal land before irretrievably committing to that drilling.*” *Id.* at 57 (emphasis added).

To remedy these “serious” NEPA violations, the court concluded that “[u]ntil BLM sufficiently explains its conclusion that the Wyoming Lease Sales did not significantly affect the environment, BLM may not authorize new drilling on the leased parcels.” *Id.* at 59. The court also held that BLM is required to supplement its EAs and FONSIs for the Wyoming lease sales. *Id.*

As noted above, this decision has far-reaching implications for the BLM. First, because the case also involved leases in Colorado and Utah, we expect that the court will apply its holdings and remedy to these lease sales as well, thereby resulting in supplemental NEPA analyses for 11 lease sales totaling over 460,000 acres of land as well as an injunction of new drilling permits for these sales. Second, because the decision was decided under the statutory and regulatory language of NEPA, there is no doubt that it will apply to lease sales which have occurred since the complaint was filed. Indeed, as we have consistently pointed out, BLM has
unlawfully omitted or limited its analyses of climate impacts over the past two and half years. The June 2019 lease sale is no exception as detailed below. Thus, the Citizen Groups request that BLM remove all of the parcels offered up for sale in June, unless and until it complies with the requirements of NEPA as outlined in *WildEarth Guardians v. Zinke*.

Here, just as in *WildEarth Guardians v. Zinke*, there is no doubt that direct and indirect from the lease sale are reasonably foreseeable. No. 16-1724-RC at 33. None of the proposed leases have NSO stipulations for the entire parcel, and as shown by the map below, the leases are surrounded by currently producing wells. Thus, direct and indirect greenhouse gas emissions from the lease sale are reasonably foreseeable, and the BLM is required to estimate these through a site-specific NEPA analysis. Furthermore, as discussed above, the BLM cannot rely on the underlying RMPs-EISs to fulfill its NEPA duties. Both RMPs are severely out of date and do not include the full impacts of horizontal drilling coupled with fracking.

A map of active wells in the Greater Chaco Area. The June 2019 lease parcels are in orange. The December 2018 and March 2019 lease parcels are in red. Data obtained from the BLM and the State of New Mexico.

Although the Citizen Groups appreciate that BLM attempts to calculate direct and indirect GHG emissions, BLM’s approach is fundamentally flawed for three reasons: using an average well emissions rate is misleading, using an annual emissions rate is misleading and undervalues the significance of the proposed action, and BLM is required to actually assess the significance of both direct and indirect emissions in a way that acknowledges the global nature of climate change but does not undermine the magnitude of the proposed action.

On this first point, because BLM assumes that emissions will uniformly occur across each lease parcel. In reality, a certain lease parcel may produce significantly more emissions based on its location relative to certain oil and formations, whereas more speculative lease parcels may produce very little because they may never be drilled or put into production. In essence, BLM’s approach fails to assess the lease sales parcels based on actual, foreseeable development—an approach essential to an informed decision and entirely possible based on the actions of other BLM offices. Moreover, this approach is problematic for BLM’s assessment of reasonable action alternatives to address the impacts of GHG emissions. Such reasonable alternatives include an alternative to allow leases only when the agency can demonstrate, through use of social cost of carbon analysis, a net benefit to the public; an alternative that eliminates high emission parcels in marginal production areas; an alternative that imposes lease stipulations to prevent or minimize emissions; and an alternative that aligns the leasing decisions with the Paris Climate Agreement’s temperature guardrails. Any or all of these alternatives may be necessary—and are at least reasonable—to assess consistent with NEPA and FLPA.

There is no doubt that BLM has the tools to estimate the number of wells and resulting direct and indirect emissions from the specific lease parcels in the aggregate. For example, the BLM’s Royal Gorge Field Office of Colorado contracted with URS Group Inc. to prepare an analysis of air emissions from the development of seven oil and gas lease parcels. This report estimated GHG emissions on a per well basis using the location of the proposed lease parcel to assess development potential for each parcel. BLM also looked at site-specific data from Applications for Permits to Drill (“APDs”) from sites near the lease parcels. The chart below demonstrates some of BLM’s calculations.

<table>
<thead>
<tr>
<th>Parcel Serial #</th>
<th>In Non-attainment Area? ¹</th>
<th>Development Category</th>
<th>Minimum Wells per Township</th>
<th>Maximum Wells per Township</th>
<th>Area of Parcel (acres)</th>
<th>Average Acres Disturbed per Well ²</th>
<th>Potential Minimum Wells Developed in Parcel ³</th>
<th>Potential Maximum Wells Developed in Parcel ⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td>COC73444</td>
<td>Y</td>
<td>Moderate</td>
<td>5</td>
<td>9</td>
<td>160</td>
<td>7.6</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>COC73443</td>
<td>Y</td>
<td>High</td>
<td>21</td>
<td>50</td>
<td>123</td>
<td>7.6</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>COC73442</td>
<td>Y</td>
<td>Very High</td>
<td>51</td>
<td>150</td>
<td>80</td>
<td>7.6</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>COC73424</td>
<td>Y</td>
<td>Moderately High</td>
<td>10</td>
<td>20</td>
<td>320</td>
<td>7.6</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>COC73423</td>
<td>N</td>
<td>Low</td>
<td>1</td>
<td>4</td>
<td>320</td>
<td>2.1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>COC73441</td>
<td>N</td>
<td>Low</td>
<td>1</td>
<td>4</td>
<td>120</td>
<td>2.1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>COC73440</td>
<td>N</td>
<td>Low</td>
<td>1</td>
<td>4</td>
<td>879</td>
<td>2.1</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

(1) Parcels are either within the Greater Wattenberg Non-Attainment Area (NAA) or to the east of the NAA.
(2) Average acres disturbed is determined from values in the RFD.
(3) Parcels must have at least one well to retain lease.
(4) Potential maximum wells developed is either the number of wells that will fit in the parcel, or the maximum per Township, if the former is greater.

From this it is clear that each lease parcel is not equal and that even for parcels within the same field office, potential emissions vary widely. For example, lease parcel COC73424 is


84 Id. at 3, 5.
located in a high development category and could result in 20 new wells whereas lease parcel COC73440 will likely only result in four new wells.

Emissions calculations from the Kleinfelder Report, which was commissioned by the BLM National Operations Center, support this conclusion. This report assessed emissions from wells within representative oil and gas basins across the West, including wells in the Upper Green River Basin of Wyoming where many of the lease sale parcels are located.\(^{85}\) It also calculated per well emissions by analyzing NEPA documents and site-specific air permit applications.\(^{86}\) As shown in the chart below, CO\(_2\) emissions can vary greatly depending on the applicable oil and gas formation.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Uinta/ Piceance (tpy)</th>
<th>Upper Green River (tpy)</th>
<th>San Juan (tpy)</th>
<th>Williston (tpy)</th>
<th>Denver (tpy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO(_x)</td>
<td>15.6</td>
<td>14.6</td>
<td>5.6</td>
<td>15.6</td>
<td>63.4</td>
</tr>
<tr>
<td>CO</td>
<td>3.8</td>
<td>3.9</td>
<td>3.1</td>
<td>8.0</td>
<td>3.4</td>
</tr>
<tr>
<td>VOC</td>
<td>3.4</td>
<td>5.2</td>
<td>5.3</td>
<td>17.6</td>
<td>6.7</td>
</tr>
<tr>
<td>SO(_2)</td>
<td>0.0004</td>
<td>0.0004</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>PM(_{10})</td>
<td>6.9</td>
<td>6.7</td>
<td>6.8</td>
<td>6.9</td>
<td>6.6</td>
</tr>
<tr>
<td>PM(_{2.5})</td>
<td>0.8</td>
<td>0.8</td>
<td>0.5</td>
<td>0.8</td>
<td>0.5</td>
</tr>
<tr>
<td>CO(_2)</td>
<td>2,552.1</td>
<td>2,882.1</td>
<td>651.9</td>
<td>3,156.4</td>
<td>1,049.0</td>
</tr>
<tr>
<td>CH(_4)</td>
<td>12.2</td>
<td>14.1</td>
<td>6.1</td>
<td>16.6</td>
<td>1.8</td>
</tr>
<tr>
<td>N(_2)O</td>
<td>0.05</td>
<td>0.05</td>
<td>0.04</td>
<td>0.6</td>
<td>0.04</td>
</tr>
<tr>
<td>GWP(^\text{eq})</td>
<td>2,925</td>
<td>3,194</td>
<td>791</td>
<td>3,692</td>
<td>1,099</td>
</tr>
<tr>
<td>Benzene</td>
<td>1.4</td>
<td>1.5</td>
<td>1.4</td>
<td>1.5</td>
<td>1.4</td>
</tr>
<tr>
<td>Toluene</td>
<td>1.0</td>
<td>1.2</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>0.00003</td>
<td>0.01</td>
<td>0.0006</td>
<td>0.0006</td>
<td>0.0006</td>
</tr>
<tr>
<td>Xylenes</td>
<td>0.6</td>
<td>0.7</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>n-Hexane</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
<td>7.9</td>
<td>7.5</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>10.4</td>
<td>10.9</td>
<td>10.5</td>
<td>11.0</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Note: Sums may not precisely total due to round off differences. A value of 0.00 indicates that pollutant is not emitted or emitted in de minimis amounts. If there is a non-zero value, at least one significant figure is reported.

Greenhouse gas emissions are in terms of short tons CO\(_2\), CH\(_4\), and N\(_2\)O. Global Warming Potential (GWP) is in terms of short tons of CO\(_2\) equivalent (CO\(_2\)\(_\text{eq}\)), using a GWP of 1 for CO\(_2\), 21 for CH\(_4\), and 310 for N\(_2\)O.

Both of these reports not only demonstrate that BLM has the means to assess specific lease parcel emissions, or at a minimum, emissions from a particular formation, but that such an analysis should consider on-the-ground emissions from existing APDs and air permits near the specific lease parcels.

This argument is further supported by the fact that other BLM offices consistently calculate both direct and indirect, lease-specific GHG emissions. For example, the Vernal Field Office in Utah frequently calculates per well direct emissions by dividing emissions estimates for a developed area by the number of producing wells in that area.\(^{87}\) For its December 2017 lease sale, BLM estimated per well direct emissions within the Uinta Basin as 2,284 tons per year of CO\(_2\)\(_\text{eq}\) for an oil well and 2415 tons per year of CO\(_2\)\(_\text{eq}\) for a gas well using estimates from a

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\(^{85}\) Exhibit 13, Kleinfelder, AIR EMISSIONS INVENTORY ESTIMATES FOR A REPRESENTATIVE OIL AND GAS WELL IN THE WESTERN UNITED STATES 1, 2 (2013) (prepared for BLM National Operations Center).

\(^{86}\) Id. at 6.

project-specific EIS.\textsuperscript{88} The Montana BLM has conducted similar calculations for indirect emissions. At its March 2018 oil and gas lease sale draft EA,\textsuperscript{89} the Billings Field Office calculated estimated downstream GHG emissions using county-level production rates.

Here is a table that shows the estimated downstream GHG emissions due to fossil fuel combustion:

<table>
<thead>
<tr>
<th>County</th>
<th># of wells estimated for March 2018 leasing EA</th>
<th>Ave oil prod. rate (BBL/day/ well)</th>
<th>Ave gas prod. rate (MCF/day/ well)</th>
<th>CO\textsubscript{2} Combustion emission factor (g/MMBTU)</th>
<th>CH\textsubscript{4} Combustion emission factor (g/MMBTU)</th>
<th>N\textsubscript{2}O Combustion emission factor (g/MMBTU)</th>
<th>CO\textsubscript{2} Emissions (metric tons)</th>
<th>CH\textsubscript{4} Emissions (metric tons)</th>
<th>N\textsubscript{2}O Emissions (metric tons)</th>
<th>CO\textsubscript{2}eq Million Metric Tons/Year (MMT/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>1</td>
<td>0</td>
<td>11.3</td>
<td>74,000</td>
<td>0.6</td>
<td>1791.24</td>
<td>0.24</td>
<td>0.01</td>
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Second, because BLM relies on annual emissions estimates as opposed to estimating emissions over the lifespan of projected oil and gas wells, BLM’s direct and indirect emissions analyses are misleading and fail to provide a needed metric to assess the significance of the proposed action—total GHG emissions over the entire lifespan of the oil and gas wells that will result.

Finally, BLM fails to properly assess the significance of direct and indirect GHG emissions. As the CEQ has acknowledged, “a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA.”\textsuperscript{90} BLM must do more than simply divide emissions from the proposed actions by total GHG for the state of New Mexico. BLM could assess the proposed lease sale emissions within the context of other oil and gas projects or lease sales. BLM’s could also assess the significance using varying levels of development through alternatives. BLM, unfortunately, fails to consider any of these options.

I. BLM Fails to Take a “Hard Look” at Cumulative Impacts, Including the Cumulative Greenhouse Gas Emissions Which Will Result.

BLM also fails to complete a comprehensive cumulative impacts analysis for the lease sale, including quantification of the cumulative greenhouse gas emissions that will result from the proposed lease sale in conjunction with surrounding BLM lease sales in the region.

\textsuperscript{88} Id.


\textsuperscript{90} CEQ Guidance, supra, at 11.
WildEarth Guardians v. Zinke, No. 16-1724-RC at 44–46 (D.D.C Mar. 19, 2019). As the court held in WildEarth Guardians v. Zinke, the BLM must analyze not only greenhouse gas emissions from similar oil and gas lease sales within New Mexico, but also emissions from reasonably foreseeable lease sales throughout the Rocky Mountain West and the nation. Id. “[NEPA] does, however, require that BLM quantify the emissions from each leasing decision—past, present, or reasonably foreseeable—and compare those emissions to regional and national emissions, setting forth with reasonable specificity the cumulative effect of the leasing decision at issue. To the extent other BLM actions in the region—such as other lease sales—are reasonably foreseeable when an EA is issued, BLM must discuss them as well.” (emphasis added). Although BLM includes some New Mexico lease sales, BLM fails to assess emissions from regional and national actions.

CEQ NEPA regulations define “cumulative impacts” as:

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

Thus, even if it were true that each lease sale had only minor impacts individually, which is not the case, BLM would still have to consider the collective impacts of the many federal oil and gas lease sales taking place each quarter. For example, the BLM has sold, is selling, and will be selling thousands of acres of oil and gas leases, including:


*BLM lease sales occurring in 2019 (plus the NM Dec. 2018 sale) in the Four Corners region.*
As the court made clear in *WildEarth Guardians v. Zinke*, BLM cannot ignore the impacts from these similar, cumulative federal lease sales occurring the region and nationally. Instead, BLM must quantify emissions from these reasonably foreseeable lease sales.

Finally, BLM must also calculate emissions from the entire lifespan of the proposed wells and not just annual emissions. In short, we request that BLM study the cumulative impacts of these similar actions occurring within the same area through an EIS for the challenged lease sales and by tiering to a programmatic EIS for BLM’s leasing program.

J. BLM Must Consider Assessing the Significance of the Proposed Action Using the Social Cost of Carbon.

An EIS must do more than merely identify impacts. An EIS must also enable the agency and other interested parties to “evaluate the severity” of the effects. *See Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989); *see also* 40 C.F.R. § 1508.27-(b) (a factor in assessing intensity or severity, and hence significance for NEPA purposes, is “the degree to which the proposed action affects public health or safety”). NEPA does not, of course, require agencies to monetize adverse impacts in all cases. *See* 40 C.F.R. § 1502.23. But, monetization of costs may be required where available “alternative mode[s] of [NEPA] evaluation [are] insufficiently detailed to aid the decision-makers in deciding whether to proceed, or to provide the information the public needs to evaluate the project effectively.” *Columbia Basin Land Prot. Ass’n v. Schlesinger*, 643 F.2d 585, 594 (9th Cir. 1981).

The social cost of carbon protocol for assessing climate impacts is a method for “estimat[ing] the economic damages associated with a small increase in carbon dioxide (CO2) emissions, conventionally one metric ton, in a given year [and] represents the value of damages avoided for a small emission reduction (i.e. the benefit of a CO2 reduction).” The protocol was developed by a working group consisting of several federal agencies, the Interagency Working Group (“IWG”) on the Social Cost of Carbon. The EPA has also relied on a similar peer-reviewed estimates for the social cost of methane emissions, which adjusts the social cost of carbon dioxide to account for the different effects of methane on climate change and its greater global warming potential.

These tools are easy to use by agencies, easy to understand by the public, and supported by years of peer-reviewed scientific and economic research. The EPA and other federal agencies have used these social cost protocols to estimate the effects of rulemakings on climate, and

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certain BLM field offices have used these tools in leasing level NEPA analysis.93 These protocols estimate the global financial cost of each additional ton of GHG pollution emitted to the atmosphere, taking into account factors such as diminished agricultural productivity, droughts, wildfires, increased intensity and duration of storms, ocean acidification, and sea-level rise.

Indeed, in *WildEarth Guardians v. Zinke*, the court required BLM to take another look at whether social cost of carbon might help inform its decision-making, holding:

[O]n remand, BLM must reassess whether the social cost of carbon or another methodology for quantifying climate change may contribute to informed decisionmaking. “Accurate scientific analysis” is “essential to implementing NEPA.” 40 C.F.R. § 1500.1(b). And NEPA requires an agency to ensure “scientific integrity” in its environmental assessments. Id. § 1502.24. *BLM may not forgo using the social cost of carbon simply because courts have thus far been reluctant to mandate it.* Given that the Department of Energy and other agencies consider the social cost of carbon reliable enough to support rulemakings, see *Zero Zone, Inc. v. U.S. Dep’t of Energy*, 832 F.3d 654, 677 (7th Cir. 2016), *the protocol may one day soon be a necessary component of NEPA analyses*.

No. 16-1724-RC at 50 n. 31 (D.D.C Mar. 19, 2019) (emphasis added).

The need for the social cost of carbon protocol is underscored by the fact that here BLM measures a project’s GHG emissions against a baseline of national and/or global GHG emissions. See, e.g., FFO EA at 39. This does not fulfill BLM’s obligation under NEPA to analyze and disclose the significance of a project’s GHG emissions. 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.94 As noted above, CEQ has offered similar guidance, recognizing that “the totality of climate change impacts is not attributable to any single action, but are exacerbated by a series of actions including actions taken pursuant to decisions of the Federal Government. Therefore, a statement that emissions from a proposed federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA.”95 Applying the SCC, as provided above, takes these abstract emissions and places them in concrete, economic terms.

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95 CEQ Final Guidance, *supra*, at 11.
Finally, as noted by Judge Jackson, the SCC protocol is useful when the BLM has assessed the economic benefits of the proposed action. See High Country Conservation Advocates v. U.S. Forest Serv., 52 F.Supp.3d 1174, 1190 (D. Colo. 2014); see also Mont. Envtl. Info. Ctr. v. U.S. Office of Surface Mining, No. CV 15-106-M-DWM (D. Mont. Aug. 14, 2017) (affirming the reasoning in High Country). BLM regularly touts the amount of money federal lease sales generate. For example, on September 7, 2017, the BLM issued a press release stating that “[i]n keeping with the Administration’s goals of promoting America’s Energy independence, the Bureau of Land Management New Mexico quarterly oil and gas lease sale resulted in competitive bids for 15,331.91 acres. The combined bids from the sale brought in $130,855,717, which will be distributed between the federal government and New Mexico.”

This approach is misleading and frustrates the purposes of NEPA where the agency refuses to assess the costs of oil and gas leasing. Indeed, by refusing to consider the costs of GHG emissions, the agency’s analysis effectively assumes a price of carbon that is $0. See High Country, 52 F.Supp.3d at 1192 (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.”).

BLM must find some way to properly assess the significance of greenhouse gas emissions and although the social cost of carbon protocol is not the only way to achieve this mandate, it would be useful here to properly place the proposed leases in context.

In response to this, BLM provides four arguments against using the protocol:

The EA does not undertake an analysis of the social cost of carbon because: 1) it is not engaged in a rulemaking for which the protocol was originally developed; 2) the interagency working group, technical supporting documents, and associated guidance have been withdrawn; 3) NEPA does not require cost-benefit analysis; and 4) the full social benefits of methane and coal-fired energy production have not been monetized, and quantifying only the costs of GHG emissions but not the benefits would yield information that is both potentially inaccurate and not useful. See Appendix E for further explanation.

FFO EA at 11.

BLM’s first point is belied by the agency’s use of the protocol in lease sale documents in Montana and Idaho. Although the protocol was originally designed for rulemaking it clearly has utility in lease sale decisions. Indeed, the court in WildEarth Guardians v. Zinke agreed, noting that “the protocol may one day soon be a necessary component of NEPA analyses.” No. 16-1724-RC at 50 n. 31. With regard to BLM’s second point, although the documents were withdrawn, the social cost of carbon remains the best available science for assessing the

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97 See, e.g., Exhibits 17 & 18, supra.
significance of proposed actions such as rulemaking and leasing decisions. On BLM’s third point, although we agree that NEPA does not require a cost benefit analysis, NEPA does require BLM to assess the significance of its actions, and the social cost of carbon is one of the best tools to assess the significance of greenhouse gas emissions. Finally, although BLM has not specifically quantified costs in the lease sale EA, BLM notes that “[p]otential impacts [from the proposed action] could include impacts to employment opportunities related to the oil and gas and service support industries in the region, as well as impacts to State and County governments related to royalty payments and severance taxes.” FFO EA at 17. And, again, BLM is required to assess the significance of the proposed action and the social cost of carbon is an available tool at its disposal.

K. BLM Must Consider the Significance of the Proposed Action Using Carbon Budgeting.

BLM must assess the significance of the direct, indirect, and cumulative climate change impacts from the challenged lease sales. Simply providing GHG emissions in the abstract, or comparing incremental emissions to regional and national totals, however, fails to inform the decision-maker of the significance of the impacts. In other words, to appreciate the significance of the impacts of the lease sales, the decision-maker must understand the context in which those lease sales are occurring. That context is a global climate crisis.

The science of carbon budgeting is rapidly evolving. Recent reports demonstrate the evident usefulness of carbon budgeting in assessing the significance of future emissions. For example, the October 2018 IPCC Global Warming of 1.5°C special report provided a revised carbon budget for a 66 percent probability of limiting warming to 1.5°C, estimated at 420 GtCO₂ and 570 GtCO₂ depending on the temperature dataset used, from January 2018 onwards. Compared with the average global emissions rate of 36 GtCO₂ per year noted above for 2012-2014, the IPCC explained the global emissions rate has increased to 42 GtCO₂ per year. At this rate, the global carbon budget would be expended in just 10 to 14 years, underscoring the urgent need for transformative global action to transition from fossil fuel use to clean energy. In effect, we’re burning through our carbon budget at a rapid pace and thereby limiting the flexibility future generations may require or desire as they intensify our world’s transition away from fossil fuels.

To put these global carbon budgets in the specific context of domestic U.S. emissions and the U.S.’ obligation to reduce emissions, the U.S. is the world’s largest historic emitter of greenhouse gas pollution, responsible for 26 percent of cumulative global CO₂ emissions since

99 IPCC SP15, supra, at SPM-16.
100 Id.
101 Id.
1870, and is currently the world’s second highest emitter on an annual and per capita basis.\textsuperscript{102} And, federal fossil fuel production contributes to 23\% of all U.S. carbon dioxide emissions and to 23\% of all U.S. greenhouse gas emissions.\textsuperscript{103} Regardless, to conform to a 1.5°C target, the estimated U.S. carbon budget is 25 GtCO\textsubscript{2}eq to 57 GtCO\textsubscript{2}eq on average,\textsuperscript{104} depending on the sharing principles used to apportion the global budget across countries.\textsuperscript{105} The estimated U.S. carbon budget consistent with limiting temperature rise to 2°C ranges from 34 GtCO\textsubscript{2} to 123 GtCO\textsubscript{2},\textsuperscript{106} again depending on the sharing principles used. Under any scenario, the remaining U.S. carbon budget compatible with the Paris climate targets is extremely small.

As noted above, Oil Change International recently reaffirmed this conclusion in a report released in January 2019.\textsuperscript{107} Specifically, it found that using existing fossil fuel reserves would again push the world far beyond warming of 1.5°C and 2°C.\textsuperscript{108} The report also found that:

- Between now and 2030, the United States is on track to account for 60 percent of world growth in oil and gas production, expanding extraction at least four times more than any other country. This is the time period over which climate scientists say global carbon dioxide (CO\textsubscript{2}) emissions should be roughly halved to stay in line with the 1.5°C target in the Paris Agreement.

- Between 2018 and 2050, the United States is set to unleash the world’s largest burst of CO\textsubscript{2} emissions from new oil and gas development (Figure ES-2). U.S. drilling into new oil and gas reserves — primarily shale — could unlock 120 billion metric tons of

\textsuperscript{102} Johannes Friedrich et al., Interactive Chart, supra.

\textsuperscript{103} See Merrill, M.D. et al., U.S. Geo. Survey, 2018 GHG Report, supra, at 1.

\textsuperscript{104} Exhibit 20.1, Robiou du Pont, Yann et al., EQUITABLE MITIGATION TO ACHIEVE THE PARIS AGREEMENT GOALS, 7 NATURE CLIMATE CHANGE 38, Supplemental Tables 1 and 2 (2017). Quantities measured in GtCO\textsubscript{2}eq include the mass emissions from CO\textsubscript{2} as well as the other well-mixed greenhouse gases (CO\textsubscript{2}, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and SF\textsubscript{6}) converted into CO\textsubscript{2}-equivalent values, while quantities measured in GtCO\textsubscript{2} refer to mass emissions of just CO\textsubscript{2} itself.

\textsuperscript{105} Robiou du Pont et al. (2017) averaged across IPCC sharing principles to estimate the U.S. carbon budget from 2010 to 2100 for a 50 percent chance of returning global average temperature rise to 1.5°C by 2100, consistent with the Paris Agreement’s “well below 2°C” target, and based on a cost-optimal model. The study estimated the U.S. carbon budget consistent with a 1.5°C target at 25 GtCO\textsubscript{2}eq by averaging across four equity principles: capability (83 GtCO\textsubscript{2}eq), equal per capita (118 GtCO\textsubscript{2}eq), greenhouse development rights (-69 GtCO\textsubscript{2}eq), and equal cumulative per capita (-32 GtCO\textsubscript{2}eq). The study estimated the U.S. budget at 57 GtCO\textsubscript{2}eq when averaging across five sharing principles, adding the constant emissions ratio (186 GtCO\textsubscript{2}eq) to the four above-mentioned principles. However, the constant emissions ratio, which maintains current emissions ratios, is not considered to be an equitable sharing principle because it is a grandfathering approach that “privileges today’s high-emitting countries when allocating future emission entitlements.”

\textsuperscript{106} Robiou du Pont et al. (2017) estimated the U.S. carbon budget for a 66 percent probability of keeping warming below 2°C at 60 GtCO\textsubscript{2}eq based on four equity principles (capability, equal per capita, greenhouse development rights, equal cumulative per capita), and at 104 GtCO\textsubscript{2}eq based on five principles (adding in constant emissions ratio, but see footnote above).


\textsuperscript{108} Kelly Trout & Lorne Stockman, Oil Change International, DRILLING TOWARD DISASTER, supra, at 11.
CO2 emissions, which is equivalent to the lifetime CO2 emissions of nearly 1,000 coal-fired power plants.

- If not curtailed, U.S. oil and gas expansion will impede the rest of the world’s ability to manage a climate-safe, equitable decline of oil and gas production. We find that, under an illustrative 1.5°C pathway for oil and gas taken from the Intergovernmental Panel on Climate Change (IPCC), U.S. production would exhaust nearly 50 percent of the world’s total allowance for oil and gas by 2030 and exhaust more than 90 percent by 2050.

- Nearly 60 percent of the 120 billion tons of CO2 emissions unlocked by new U.S. oil and gas drilling from 2018 to 2050 is set to come from the Permian and Appalachian Basins (Figure ES-3).

- The CO2 pollution enabled by oil and gas production in the Permian Basin from 2018 through 2050 could exhaust close to 10 percent of the entire world’s carbon budget for staying within 1.5°C of warming. By its projected peak year of production, 2029, the Permian Basin could see nearly as much oil extraction as Saudi Arabia does today.

As demonstrated above, climate science in ever evolving and extremely relevant to BLM’s work. Without accounting for recent reports, BLM is approving actions in the dark, without the full picture of climate change before it and contrary to the requirements of NEPA. Although BLM’s EAs provide justification for not using SCC, it ignores altogether carbon budgeting as such a measure.

With 1°C of warming from historic levels already measured, and additional warming already locked in from recent GHG emissions, the window for preventing catastrophic climate change is rapidly closing. Carbon budgeting represents a valuable and ever-improving tool to assess how BLM’s actions are contributing to the global climate crisis.

And as the D.C. District Court recently recognized in WildEarth Guardians v. Zinke, BLM has a legal obligation under NEPA to take a hard look at the cumulative impacts of its leasing decisions in context of the current climate crisis. Since carbon budget analysis based on recent studies would contribute to informed decision-making, BLM must utilize this tool in its assessment of the impacts of its leasing decisions.

L. BLM Fails to Assess Methane Emissions and Waste.

To comply with NEPA, the BLM must also take a hard look at direct, indirect, and cumulative impacts from methane emissions (“CH4”) and waste. See 40 C.F.R. §§ 1502.16(a), (b); 1508.25(c). Specifically, 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).

Technologies that can drastically reduce the amount of methane lost during production are readily available and cost-effective. The EPA’s most recent global warming potential
(“GWP”) estimates for methane (based on the most recent IPCC study)\textsuperscript{109} of 28–36 over a 100-year period, and 84–87 over a 20-year period underscore the importance of eliminating methane waste, which is a critical step the BLM can take now to reduce GHG emissions in the planning area.

To start, although BLM acknowledged the methane “hot spot” that exists over the San Juan Basin, citing “pioneering research using space-borne (satellite) and airborne (aircraft) determination of methane concentrations have indicated anomalously large methane concentrations may occur in the Four Corners region (Kort, et al., 2014),” in the March 2018 EA, BLM fails to include this information for the June 2019 lease sale. BLM must include this report as well as update information on methane. For example, in 2016 NASA released a study of methane emissions in the San Juan Basin identifying 250 large methane plumes emitted from well pads, storage tanks, pipelines, gas processing plants, and venting from the San Juan coal mine.\textsuperscript{110} Together these sources make up roughly half of all basin-wide methane emissions, and all but one of these sources is from the oil and gas industry. And Environmental Defense Fund recently released new methane data revealing that emissions are much higher than what EPA estimates.\textsuperscript{111}

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.” \textit{Calvert Cliffs’ Coordinating Comm., Inc. v. U.S. Atomic Energy Comm’n}, 449 F.2d 1109, 1128 (D.C. Cir. 1971). Thus, BLM must consider an alternative that addresses GHG emissions and/or methane waste.

Moreover, the BLM must quantify the magnitude of methane pollution from oil and gas emissions sources within the planning area. Petroleum and natural gas systems are some of the largest industrial source of methane emissions in the United States, accounting for over one quarter of all methane emissions, or 202.3 million metric tons of CO\textsubscript{2}e in 2017 (which does not include CH\textsubscript{4} that has been flared, captured, or otherwise controlled).\textsuperscript{112} However, methane emission rates can differ quite dramatically regionally, and, depending on the type of mitigation


and emission controls employed. 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.

Every ton of methane lost to the atmosphere is therefore a ton of methane 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. This waste of valuable resources is unnecessary and avoidable with readily available, cost-effective technology and practices.

M. BLM Fails to Take a “Hard Look” at Impacts to Air Quality.

BLM also fails to take a hard look at the air quality impacts from oil and gas leasing and development in the planning area. Although BLM includes an updated Air Resources Technical Report (“ARTR”), with statewide emissions estimates, BLM fails to estimate air emissions from the proposed lease sale parcels. Such an analysis is required in order to assess whether to approve the proposed action or whether to approve an alternative which mitigates such impacts.

Oil and gas development is one of the largest sources of air pollution in the U.S. It emits nitrogen oxides (“NOx”), volatile organic compounds (“VOCs”) (both of which react to form ozone), as well as sulfur dioxide emissions. As the Endocrine Disruption Exchange has noted:

In addition to the land and water contamination issues, at each stage of production and delivery tons of toxic volatile compounds, including benzene, toluene, ethylbenzene, xylene, etc., and fugitive natural gas (methane), escape and mix with nitrogen oxides from the exhaust of diesel-driven, mobile and stationary equipment to produce ground-level ozone. Ozone combined with particulate matter less than 2.5 microns produces smog (haze). Gas field produced ozone has created a serious air pollution problem similar to that found in large urban areas, and can spread up to 200 miles beyond the immediate region where gas is being produced. Ozone not only causes irreversible damage to the lungs, it is equally damaging to conifers, aspen, forage, alfalfa, and other crops commonly grown in the West. Adding to this is the dust created by fleets of diesel-driven water trucks working around the clock hauling the constantly accumulating condensate water from well pads to central evaporation pits.

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113 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 cites); 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).


BLM is required to analyze the specific impacts on air quality from the proposed action. “The agency must examine the relevant data and articulate a satisfactory explanation for its action including a ‘rational connection between the facts found and the choice made.’” *Motor Vehicle Mfrs. v. State Farm Ins.*, 463 U.S. 29, 43 (1983).

To start, the FFO 2003 RMP and EIS is outdated and cannot be used to guide agency decision-making. For example, significant new information demonstrates that emissions associated with oil and gas development are significantly higher than what the 2003 Farmington RMP/EIS 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 be equal 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. The table below illustrates this discrepancy between the amount of VOC emissions projected in 2003 and the most recent estimates.

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<tr>
<td>WRAP Phase III 2012 Projection for San Juan/Rio Arriba Counties</td>
<td>55,049</td>
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This discrepancy is significant and indicates that BLM cannot reasonably tier to the 2003 RMP/EIS to justify that air quality impacts will not be significant. 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 RMPA and EIS are completed.

A similar argument applies to the RPFO parcels. Because the RPFO RMP is severely out of date and fails to account for the increased impacts associated with fracking and horizontal drilling, the air quality analysis is also likely inaccurate.117

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116 See ENVIROM, *Final Report: Development of 2012 Oil and Gas Emissions Projections for the South San Juan Basin* (Dec. 2009) (prepared for Western Regional Air Partnership) (previously included as included as Old Leasing Exhibit 121); ENVIROM, *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) (previously included as included as Old Leasing Exhibit 122).

As noted above, the BLM must also analyze the potential site-specific air quality impacts presented from the specific lease parcels. Here, both the FFO and RPFO rely upon the broad technical information related to air resources from the ARTR for New Mexico, Oklahoma, Texas and Kansas. This report is too broad in scope to sufficiently analyze the site-specific impacts of oil and gas leasing and development from the proposed action. Although BLM includes some additional information on emissions estimates from one horizontal well, see FFO EA, Appendix G, BLM fails to calculate total emissions from all wells that will result over the full lifespan of each well. For example, BLM mentions that San Juan County is currently close to exceeding federal air quality standards for ozone. FFO EA at 26. It is possible that all the wells from the proposed action coupled with existing air quality could push the area into nonattainment for ozone. Because BLM does not calculate total air emissions, BLM cannot conclude that its approval of the leases will not result in significant impacts. Thus, BLM must analyze the full impacts to air quality of the proposed action.

N. BLM Fails to Take a “Hard Look” at the Impacts from Hydraulic Fracturing.

Similarly, BLM has yet to take a “hard look” at the impacts of hydraulic fracturing in any of its existing NEPA documents. Although BLM includes on its ePlanning page a “Hydraulic Fracturing White Paper,” BLM fails to reference this in the EAs. More importantly, the report is from 2015 and fails to reflect the updated science on this subject. As Physicians for Social Responsibility have recognized in their compendium of studies on the impacts of fracking, As is revealed in the Repository for Oil and Gas Energy Research, the database of literature maintained by PSE Healthy Energy, the number of peer-reviewed publications relevant to assessing the environmental, socioeconomic, and public health impacts of shale gas development doubled between 2011 and 2012 and then doubled again between 2012 and 2013. More than 90 percent of these publications have been published since January 2013, with nearly one-quarter of the now more than 1,300 available studies published in 2017 alone.

Multiple courts have held that if the BLM plans to allow a new oil and gas extraction technique, the agency must analyze the impacts of this technique in either a programmatic or project-specific NEPA document. See Pennaco Energy, Inc. v. U.S. Dep’t of the Interior, 377 F.3d 1147, 1151, 1153 (10th Cir. 2004) (holding that when a new fossil fuel extraction technology becomes commercially viable, and creates “changed circumstances” such that production of energy with the new technology is “significantly different” than production using

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118 Hydraulic fracturing, or fracking, as used here, refers to a combination of horizontal drilling and multi-stage hydraulic fracturing.


120 See Fracking Compendium, supra (previously attached to Citizen Groups’ Feb. 10, 2019 Scoping Comments as Exhibit 7).

121 Id. at 10.
previously considered technology, an agency permitting activities utilizing the new technology must take new environmental impacts into account as part of the NEPA process); see also Ctr. for Biological Diversity v. Bureau of Land Mgmt., 937 F. Supp. 2d 1140, 1157 (N.D. Cal. 2013) (invalidating a BLM lease sale because “the scale of fracking in shale-area drilling today involves risks and concerns that were not addressed by the PRMP/FEIS’ general analysis of oil and drilling development in the area”); see also ForestWatch v. U.S. Bureau of Land Mgmt., 2016 WL 5172009, Case No. CV-15-4378-MWF (JEMx) (C.D. Cal. Sept. 6, 2016) (holding that the BLM “acted unreasonably in failing to discuss, let alone take a ‘hard look’ at, the environmental impact of fracking in the FEIS”).

Hydraulic fracturing or “fracking” has not only opened up vast areas of minerals that were previously uneconomical to extract—thereby expanding the total land area impacted by development—the process of fracking also causes more intense impacts to our public health, air, water, land, and wildlife.122 Despite this, BLM’s existing NEPA analyses for underlying RMPs completely omit any analysis of the impacts of fracking. Widespread use of high volume hydraulic fracturing as an extraction technique did not occur until the early 2000s.123 Currently in the U.S., 67% of the natural gas comes from wells that use fracking, and 50% of the oil comes from wells that use fracking.124 An oil and gas industry trade group estimates that more than 90% of the new wells drilled today use fracking.125 BLM must address before approving additional leasing. See Pennaco Energy, Inc., 377 F.3d at 1151, 1153; Ctr. for Biological Diversity, 937 F. Supp. 2d at 1157.

BLM’s EAs fail to remedy this violation. As noted above, BLM’s White Paper is out of date. In order to meet its requirements under NEPA BLM must include updated information. A quick search of PSE’s oil and gas repository demonstrates 21 new studies on the health impacts of fracking since in 2019 alone.126 BLM must address this emerging science.

Finally, BLM’s failure to analyze the impacts from fracking in its RMPs and FEISs not only violates NEPA but also violates FLPMA. As noted above, FLPMA requires that the BLM amend an RMP whenever there is a need to “[c]onsider a proposal or action that does not conform to the plan,” “respond to new, intensified, or changed uses on public land,” or “consider


124 Id.


significant new information from resource assessments, monitoring, or scientific studies that change land use plan decisions.” BLM Land Use Planning Handbook, H-1610-1, Section VII.B at 45. The emergence of the widespread use of multi-stage fracking coupled with horizontal drilling since the RMPs/FEISs were completed clearly constitutes a “new, intensified, or changed use[] on public land.” Thus, BLM cannot move forward with leasing the parcels in this area until it completes the Mancos RMPA, updates the RPFO RMP, and includes a full analysis of the impacts of fracking and horizontal drilling in a project-specific EIS.

O. BLM Fails to Take a “Hard Look” at Impacts to Water Resources.

Similarly, BLM must also analyze the site-specific, direct and indirect impacts to water quality and quantity that will result fracking and development in general. Although BLM undertakes some analysis, BLM fails to take a hard look at the full impacts to water resources.

As noted above, the potential impacts that may result from hydraulic fracturing are myriad and significant, and include, among others: impacts to water quality and supply, impacts to habitat and wildlife, impacts to human health, as well as impacts to greenhouse gas emissions and air quality. Although industry often asserts that hydraulic fracturing is safe and doesn’t result in contamination or harm to people and the environment, a New York Times investigation uncovered a 1987 U.S. Environmental Protection Agency (“EPA”) report to Congress which found, among other things, that fracking can cause groundwater contamination, and cites as an example a case where hydraulic fracturing fluids contaminated a water well in West Virginia. The EPA report was further summarized and reviewed in an Environmental Working Group report and demonstrates the long-known dangers of employing this technology to extract mineral resources. Recent reports continue to confirm this conclusion.

i. Water Quality

First, BLM must assess potential impacts to water quality. Fracking fluid is a conglomeration of many highly toxic chemicals and compounds. The Endocrine Disruption Exchange (“TEDX”) has documented nearly 1,000 products energy companies inject into the ground in the process of extracting natural gas. Many of these products contain chemicals that are harmful to human health. According to TEDX:

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130 Fracking Compendium, supra; TEDX, Scientific Literature, supra; see also BLM, Hydraulic Fracturing on Federal and Indian Lands, 80 Fed. Reg. 161,128 (Mar. 26, 2015).
In the 980 products identified...[for use during natural gas operations], there were a total of 649 chemicals. Specific chemical names and CAS numbers could not be determined for 286 (44%) of the chemicals, therefore, the health effects summary is based on the remaining 362 chemicals with CAS numbers...Over 78% of the chemicals are associated with skin, eye or sensory organ effects, respiratory effects, and gastrointestinal or liver effects. The brain and nervous system can be harmed by 55% of the chemicals. These four health effect categories...are likely to appear immediately or soon after exposure. They include symptoms such as burning eyes, rashes, coughs, sore throats, asthma-like effects, nausea, vomiting, headaches, dizziness, tremors, and convulsions. Other effects, including cancer, organ damage, and harm to the endocrine system, may not appear for months or years later. Between 22% and 47% of the chemicals were associated with these possibly longer-term health effects. Forty-eight percent of the chemicals have health effects in the category labeled ‘Other.’ The ‘Other’ category includes such effects as changes in weight, or effects on teeth or bones, for example, but the most often cited effect in this category is the ability of the chemical to cause death.131

A Congressional Report issued in April 2011 reveals that energy companies have injected more than 30 million gallons of diesel fuel or diesel mixed with other fluids into the ground nationwide in the process of fracking to extract natural gas between 2005 and 2009.132 In Colorado, 1.3 million gallons of fluids containing diesel fuel were used in fracking wells.133 The EPA has stated that “the use of diesel fuel in fracturing fluids poses the greatest threat” to underground sources of drinking water.134 According to Congresswoman Diana DeGette of Colorado, fracking with diesel fuel was done without permits in apparent violation of the Safe Drinking Water Act.135

131 TEDX, Chemicals In Natural Gas Operations, https://endocrinedisruption.org/assets/media/documents/Multistate%20summary%208-3-17.pdf.
Despite the energy industry’s explanation that a thick layer of bedrock safely separates the gas-containing rock layer being fractured from ground-water used for drinking and surface water sources, evidence is emerging that warns that contaminants from gas wells are making their way into groundwater. Evidence suggesting contaminants from drilling and fracking operations have contaminated drinking water includes:

- In March 2004, gas was discovered bubbling up in West Divide Creek. The Colorado Oil and Gas Conservation Commission (“COGCC”) took samples of the water and discovered they contained benzene, which was traceable to a seep caused by EnCana while drilling for natural gas. EnCana was subsequently fined $371,000 as a result of contaminating West Divide Creek.  

- The COGCC investigated complaints from Weld County, Colorado that domestic water wells were allegedly contaminated from oil and gas development. The COGCC concluded after investigation that the Ellsworth’s water well contained a mixture of biogenic and thermogenic methane that was in part attributable to oil and gas development. Ms. Ellsworth and the operator reached a settlement in that case.

- In Pavillion, Wyoming, EPA found 11 of 39 water samples collected from domestic wells were contaminated with chemicals linked to local natural gas fracking operations. The EPA found arsenic, methane gas, diesel-fuel-like compounds and metals including copper and vanadium. Of particular concern were compounds called adamantanes – a natural hydrocarbon found in natural gas – and a little-known chemical called 2-butoxyethanol phosphate, or 2-BEp. 2-BEp is closely related to 2-BE, a substance known to be used in fracking fluids.

- The Pennsylvania Department of Environmental Protection drafted a report that documented cases in two dozen communities where new or operating oil or gas wells led to methane migrating into drinking water wells and streams, as well as more than three dozen more cases where methane contamination of drinking water sources was linked to abandoned wells.

- A house in Bainbridge, Ohio exploded on November 15, 2007. The investigators determined that the well had been improperly constructed, that hydraulic fractures grew out of zone, and pressure was not safely managed after fracturing, allowing gas

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to migrate into the shallow drinking water aquifer and subsequently into domestic water wells, culminating in the explosion. The faulty cement casing of the well developed a crack allowing methane to seep underground and fill a residential basement.

- On January 1, 2009, a water well at a home in Dimock, Township, Susquehanna County, PA, exploded. The Pennsylvania Department of Environmental Protection (“PA DEP”) documented elevated levels of methane in numerous drinking water wells near Cabot natural gas wells and concluded that the elevated methane in drinking water was a result of Cabot’s failure to properly case and cement several of its gas wells, which allowed methane to migrate from the wells into drinking water.

Other known and suspected adverse effects of drilling and fracking operations include:

- In 2011, Garfield County, Colorado, Commissioners expressed their health and safety concerns regarding natural gas drilling and fracking by stating in a legal filing that, “No agency…can guarantee Garfield County residents that exposures to oil and gas emissions will not produce illness or latent effects, including death.” They cited the cases of three people – Chris Mobaldi, Verna Wilson, and Jose Lara – who died after suffering from drilling-related illnesses in Garfield County.

- In April 2008, a nurse at a hospital in Durango, Colorado, became critically ill and almost died of organ failure as a result of second-hand chemical exposure acquired while treating a drill rig worker who had fracking fluid on his clothes.

- In Texas, which now has approximately 93,000 natural-gas wells, up from around 58,000 a dozen years ago, a hospital system in the six counties with some of the heaviest drilling reported in 2010 a 25 percent asthma rate for young children, more than three times the state rate of about 7 percent.

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Abrahm Lustgarten, an investigative reporter with ProPublica, who has won the George Polk Award for Environmental Reporting for his work on the dangers of natural gas drilling, writes:

Dennis Coleman, a leading international geologist and expert on tracking underground migration, says more data must be collected before anyone can say for sure that drilling contaminants have made their way to water or that fracturing is to blame. But Coleman also says there’s no reason to think it can’t happen. Coleman’s Illinois-based company, Isotech Laboratories, has both the government and the oil and gas industry as clients. He says he has seen methane gas seep underground for more than seven miles from its source. If the methane can seep, the theory goes, so can the fluids.145

Important evidence of groundwater contamination from hydraulic fracturing is found in an EPA draft report investigating groundwater contamination near Pavillion, Wyoming (“Pavillion Report”).146 Among its findings, the Pavillion Report provides:

Elevated levels of dissolved methane in domestic wells generally increase in those wells in proximity to gas production wells. Pavillion Report, at xiii.

Detection of high concentrations of benzene, xylenes, gasoline range organics, diesel range organics, and total purgeable hydrocarbons in ground water samples from shallow monitoring wells near pits indicates that pits are a source of shallow ground water contamination in the area of investigation. Pits were used for disposal of drilling cuttings, flowback, and produced water. There are at least 33 pits in the area of investigation. When considered separately, pits represent potential source terms for localized ground water plumes of unknown extent. When considered as whole they represent potential broader contamination of shallow ground water. Id. at 33 (emphasis added).

The explanation best fitting the data for the deep monitoring wells is that constituents associated with hydraulic fracturing have been released into the Wind River drinking water aquifer at depths above the current production zone. Id. at 33 (emphasis added).

Although some natural migration of gas would be expected above a gas field such as Pavillion, data suggest that enhanced migration of gas has occurred to ground water at depths used for domestic water supply and to domestic wells. Id. at 37 (emphasis added).

A lines of reasoning approach utilized at this site best supports an explanation that

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146 EPA Draft Report, Pavillion, supra.
inorganic and organic constituents associated with hydraulic fracturing have contaminated ground water at and below the depth used for domestic water supply. … A line of evidence approach also indicates that gas production activities have likely enhanced gas migration at and below depths used for domestic water supply and to domestic wells in the area of investigation.\(^\text{147}\)

Although the Pavillion Report was never finalized, EPA shared preliminary data with, and obtained feedback from, Wyoming state officials, EnCana, Tribes, and Pavillion residents, prior to release. Even in draft form, the Pavillion Report and its troubling findings – as well as other evidence of fracking related contamination from around the country – satisfies the low threshold for consideration of the impacts described therein in the NEPA analysis for the FFO and RPFO RMPs.\(^\text{148}\)

AirWaterGas researchers from the University of Colorado, Boulder found nine chemicals of most concern used in hydraulic fracturing fluid based on their toxicity, mobility, persistence, and frequency of use.\(^\text{149}\) Oil and gas wells with surface casing pressure have compromised structural integrity and pose a risk for releasing stray gas into the surrounding aquifer or atmosphere.\(^\text{150}\) They also found that deviated wells (wells drilled at an angle but not fully horizontal), and horizontal wells develop surface casing pressure more frequently than vertical wells.\(^\text{151}\) Another AirWaterGas study found that insufficient casing or cementing of a wellbore in the Denver-Julesburg Basin of Colorado was the main cause of methane migration from oil and gas wells into water wells.\(^\text{152}\) Using publicly-available data from the Colorado Oil and Gas Conservation Commission (COGCC), AirWaterGas researchers identified 42 drinking water wells in Colorado that contained thermogenic stray gas originating from underlying oil and gas producing formations.\(^\text{153}\)

Recent reporting from New Mexico has acknowledged a proliferation of “frack hits,” or “downhole communication,” where new horizontal drilling for oil is communicating with both historic and active vertical wells.\(^\text{154}\) This is a significant development that could result in well

\(^{147}\) Id. at 39 (emphasis added).


\(^{150}\) Id.

\(^{151}\) Id.

\(^{152}\) Id.

\(^{153}\) Id.

\(^{154}\) See, e.g., Gayathri Vaidyanathan, In N.M., A Sea Of ‘Frack Hits’ May Be Tilting Production, E&E News, (March 18, 2014) https://www.eenews.net/energywire/2014/03/18/stories/1059996265; Tina Jensen, Fracking Fluid Blows
blowouts, contamination of resources, and issues over who is responsible for liabilities and costs of such impacts. And, just recently, a federal district court in New Mexico held that BLM’s decision to lease lands within the Santa Fe National Forest for oil and gas without a site-specific analysis violated NEPA. *San Juan Citizens All. v. United States Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1245 (D.N.M. 2018). Specifically, the court held that the BLM was required to quantify reasonably foreseeable impacts to water quantity, including “mak[ing] estimates of potential water usage for the different methods of hydraulic fracturing[.]” *Id.* Thus, the BLM is required to analyze the impacts to water quality and quantity in compliance with NEPA.

In response to this, BLM argues that no evidence supports the conclusion that frack hits could result in significant impacts beyond those studied in the EA. But, BLM fails to actually study any impacts from water contamination in the EA. BLM merely concludes that Onshore Order #2 and its casing requirements will protect water quality. FFO EA at 17. But as discussed above, evidence shows that operators do not actually case wells deep enough to protect useable aquifers in many states.\(^{155}\) The fact that frack hits even occur is evidence enough. BLM must take this issue seriously and fully study whether the area proposed for lease is at risk from these impacts.

**ii. Water Quantity & Groundwater**

BLM must also fully consider the impacts of the proposed action on groundwater. For example, in past lease sale EAs, BLM has cited the astounding statistic that “recent horizontally drilled wells within the Mancos/Gallup formations of the San Juan basin each used approximately 1,020,000 gallons of water on average (3.13 acre feet).” *March 2018 FFO EA* at 68. But, the BLM must also take this statistic to its logical conclusion and calculate the total amount of groundwater that could be used if industry develops new wells with 40-year lifespans on the lease parcels. Although the Citizen Groups appreciate that BLM includes calculations on the amount of water that will be used per well, BLM must also discuss where water for fracking would come from and what impacts would to other resources if the watershed experiences this scale of depletion. A discussion on 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 is critical. The BLM must also consider alternatives to large scale fresh water usage—such as the use of nitrogen fracking—or otherwise analyze the tradeoff between water savings and air quality impacts of employing these technologies.

Finally, it is well established that the Mancos Shale formation, and groundwater associated with Mancos Shale beds, contains high concentrations of pollutants including nitrate,

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selenium, and uranium. Prior to authorizing leases that will foreseeably result in Mancos Shale drilling, the BLM must analyze the potential for drilling and related operations—including produced water and frack fluid storage and disposal, drilling mud and cuttings storage and disposal, cross-contamination of aquifers from induced fractures and/or wellbore communication—to result in contamination of ground and/or surface waters with selenium, uranium, or other Mancos Shale contaminants.

P. BLM Fails to Take a “Hard Look” at Lands with Wilderness Characteristics.

BLM is required to keep a current inventory of lands with wilderness characteristics as part of its multiple-use mandate under FLPMA. See Instruction Memorandum 2011-154 (“This Instruction Memorandum (IM) directs offices to continue to conduct and maintain inventories regarding the presence or absence of wilderness characteristics, and to consider identified lands with wilderness characteristics in land use plans and when analyzing projects under the National Environmental Policy Act (NEPA).”). Here, the leases are just south of the Betonnie Tsosie and Lybrook Fossil Specially Designated Areas. BLM is required to assess the impacts of the proposed leasing on these areas. Without such an analysis in its forthcoming NEPA document, the BLM would be in violation of FLPMA’s multiple use mandate, the BLM’s own IM, and the requirements of NEPA. Unfortunately, BLM fails to include any such analysis, thus failing to take a hard look at land with wilderness characteristics.

Q. BLM Fails to a “Hard Look” at Induced Seismic Risks.

BLM must also discuss the possibility of induced seismic risks in any forthcoming NEPA document. The BLM must look at whether there are active fault lines in the area, or fault lines that could be activated by wastewater injection, as well as consider the growing body of scientific evidence showing that increases in wastewater injections might increase seismic activity in the area.

Pore-pressure models have demonstrated that a combination of brine production and wastewater injection near faults in Azle, Texas, for example, generate subsurface pressures sufficient to induce earthquakes on near-critically stressed faults in the area. Recently, a CU

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Boulder study found that fracking fluid injection caused a series of earthquakes between 2008 to 2010 along the Colorado and New Mexico border.\textsuperscript{160} But earthquake swarms have been observed to be associated with extraction as well, not just injection.\textsuperscript{161} Induced seismicity is often associated with subsurface pressure changes, and extensional stresses will concentrate on the boundary of the fluid draw-down region, promoting normal faulting.\textsuperscript{162} The fact that there has not yet been much seismic activity in the area does not preclude the possibility that more oil and gas activity will lead to earthquakes.

Although BLM includes some brief information on this issue. It is incomplete. First, BLM fails to include a cite to the studies it relies on. Second, BLM is required to look at the region’s fault environment by identifying and characterizing all faults in these areas based on sources including but not limited to the USGS Quaternary Fault and Fold database. In its analysis, BLM should assess its ability to identify all faults in these areas, including strike-slip faults and deep faults that can be difficult to detect. BLM should also consider the background seismicity of oil- and gas-bearing lands including the history of earthquake size and frequency, fault structure (including orientation of faults), seismicity rates, failure mechanisms, and state of stress of faults, as well as the geology of oil- and gas-bearing lands including pore pressure, formation permeability, and hydrological connectivity to deeper faults. The BLM also must analyze the potential for fracking and wastewater disposal to induce earthquakes, and the possible risks of induced seismicity in the specific areas for lease, including structures in the area that are at risk. Moreover, many of the archeological features in the region, including the delicately balanced walls of Pueblo Bonito and other Great Houses associated with Chaco Culture National Historical Park and outlying sites, are particularly susceptible to seismic activity.

\textbf{R. BLM Fails to Take a “Hard Look” at Impacts to Human Health.}

The BLM must also include an analysis of the human health impacts that will result from oil and gas leasing and development in the planning area. 40 C.F.R. § 1506.6.

Although in past EAs, the FFO has generally identified health impacts, the agency frequently fails to take the hard look that NEPA demands. The June 2019 EAs are no exception. Both defer any specific impacts analysis of public health to the APD stage. \textit{See, e.g.}, FFO EA at 10. BLM also falsely assumes that because there are no residences within 1 mile of the proposed leases, no impacts will occur. This is incorrect.

Scientific research continues to raise concerns about the health risks of living in close proximity to oil and gas wells. 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

\footnotesize{\textsuperscript{160} Exhibit 25, CU Boulder Today, Raton Basin earthquakes linked to oil and gas fluid injections, Oct. 24, 2017, \url{https://www.colorado.edu/today/2017/10/24/raton-basin-earthquakes-linked-oil-and-gas-fluid-injections}.}
\footnotesize{\textsuperscript{161} Id. at 5-6.}
\footnotesize{\textsuperscript{162} Id.}
venting, which can present a chemical, physical and/or safety hazard. 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. Rather than merely noting that health impacts may occur, BLM must now take a hard look at the reasonably foreseeable health impacts of its actions. Although in response to this BLM includes references to the above studies, BLM still defers a full analysis of the impacts to the APD stage. FFO EA at 14. BLM must study the impacts to public health before making an irretrievable commitment of resources.

S. BLM Fails to Take a “Hard Look” at Impacts to Human Communities, Cultural Values, and Environmental Justice.

The BLM must also hard look at the impacts to human communities, cultural values, and environmental justice.

The BLM cannot ignore the concerns of the Tribes in the area. These considerations are particularly critical here given that in the past, “[s]coping analysis identified that water is a critically valued resource by local residents and communities of the Navajo Nation and in the region of the proposed lease parcels. Impacts to local water wells could force residents to find other means of supplying water for domestic use.” FFO EA at 35. Indeed, in the area, occupied buildings and residences are frequently located in close proximity to well sites on these lease parcels, raising the specter impacts to human communities—not just from water contamination, but myriad other impacts from hydraulic fracturing. For example, on July 11, 2016, a massive fire broke out at a fracking site operated by WPX Energy that was approved by the FFO, setting off several explosions and closing Highway 550. Approximately 36 storage tanks caught fire and burned, local residents were evacuated, and numerous domestic animals and livestock were killed. The massive fire took several days to burn itself out. Furthermore, the fire occurred in an area with limited access to emergency response and similar resources.

There are a number of excellent sources the BLM should consider when assessing impacts to human communities and, particularly, native communities. Many of these concerns

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164 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) (previously included as Exhibit 15 in Citizen Groups Sept. 23, 2014 comments on the January 2015 lease sale).
are outlined in an article in *THE ATLANTIC*. 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.”

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 a new oil and gas boom already occurring in the San Juan Basin—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. We look forward to a full and complete analysis from the BLM on these issues.

**II. BLM Fails to Comply with the National Historic Preservation Act.**

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The National Historic Preservation Act ("NHPA"), like NEPA, requires agencies to take a "hard look" at a project’s impacts, and was enacted specifically to protect America’s historic and cultural heritage. 16 U.S.C. §§ 470(b), 470-1. The heart of the NHPA is Section 106, which prohibits federal agencies from approving any federal “undertaking" unless the agency takes into account the effects of the undertaking on historic properties that are included in, or eligible for, inclusion in the National Register of Historic Places. 16 U.S.C. §§ 470(f), 470(w)(7); see also Pueblo of Sandia v. United States, 50 F.3d 856, 859 (10th Cir. 1995). Section 106 is a “stop, look, and listen provision” that requires federal agencies to consider the effects of their actions and programs on historic properties and sacred sites before implementation. Muckleshoot Indian Tribe v. U.S. Forest Serv., 177 F.3d 800, 805 (9th Cir. 1999); see also Valley Cmty. Cmt’n v. Mineta, 373 F.3d 1078, 1085 (10th Cir. 2004).

To adequately “take into account” the impacts on historic and cultural properties under Section 106, BLM must first determine whether the “proposed Federal action is an undertaking,” and if so, “whether it is a type of activity that has the potential to cause effects on historic properties.” 36 C.F.R. §§ 800.3(a), 800.16(y). BLM must then “[d]etermine and document the area of potential effects” and then “[r]eview existing information on historic properties within [that] area.” Id. § 800.4(a)(1)-(2). The area of potential effects (“APE”) is defined as:

the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties . . . The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

Id. § 800.16(d).

BLM must make a “reasonable and good faith effort” to identify historic and cultural properties within the APE, and consult with Indian Tribes and the state historic preservation office (“SHPO”) regarding the results of identification efforts. Id. at § 800.4(b)(1). Consultation involves a comprehensive assessment of actual adverse impacts on historic properties and of ways to “avoid, minimize or mitigate the adverse effects,” including proposing alternatives. Id. at § 800.6(a).

If the undertaking is a type of activity where historic properties “may be affected,” BLM applies the “criteria of adverse effect” to historic properties within the APE. Id. at §§ 800.4(d)(2), 800.5(a)(1). An “effect” is defined broadly to include any alteration that directly or indirectly affects the characteristics of a historic property that make it eligible for listing in the National Register of Historic Places. Id. §§ 800.16(i), 800.5(a)(1). An effect is “adverse” when it may “diminish the integrity of the property’s location … setting … feeling, or association.” Id. Adverse effects are not limited to physical destruction of historic properties, but also include “[c]hange of the … physical features within the property’s setting that contribute to its historic significance,” as well as the “introduction of visual, atmospheric or audible elements that diminish the integrity of the property’s significant historical features.” Id. at §§ 800.5(a)(2)(iv), (v). In addition to considering an undertaking’s direct and indirect impacts to historic properties, BLM must also consider “reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.” Id. at § 800.5(a)(1).
BLM may establish a “program alternative” for complying with Section 106 requirements. 36 C.F.R. §§ 800.3(a)(2), 800.14(a). In June 2004, BLM’s New Mexico State Director and the New Mexico SHPO entered into a State Protocol Agreement (“Protocol”) regarding the manner in which BLM would meet its responsibilities under the NHPA, and renewed the Protocol in 2014.

Finally, “[f]ederal agencies are encouraged to coordinate compliance with section 106 and the procedures in this part [setting out compliance with NHPA] with any steps taken to meet the requirements of the National Environmental Policy Act (NEPA). Agencies should consider their section 106 responsibilities as early as possible in the NEPA process, and plan their public participation, analysis, and review in such a way that they can meet the purposes and requirements of both statutes in a timely and efficient manner.” 36 C.F.R. 800.8(a)(1).

Chaco Culture National Historical Park (“the Park”) is the heart of the greater Chacoan landscape, characterized by a network of outlying sites and ancient roads, and is located within a geographic area that includes lands and federal minerals under the FFO’s jurisdiction. The Greater Chaco landscape has been described as the “Chaco Phenomenon” due to its unique archeological signatures. Congress recognized “the national significance of the Chacoan sites” and the need to protect these “unique archaeological resources” when it created the Park in 1980. 16 U.S.C. § 410ii. The Park is listed on the National Register of Historic Places and is designated a World Heritage Site. The World Heritage designation includes not only the Park, but also several satellite villages—known as “Chacoan Outliers”—including Pierre’s Site, Halfway House, Twin Angels, Aztec Pueblo, Kin Nizhoni and Casamero. These sites are all linked through a network of roads—the most prominent of which is the Great North Road, which connects Chaco Canyon to a settlement approximately 55 miles to the north known today as Aztec Ruin.

A. BLM Must Adequately Identify Indirect and Cumulative Adverse Impacts to Historic and Cultural Properties.

Here, the BLM must comply with the NHPA by fully identifying the indirect and cumulative adverse effects to historic and cultural properties. Instead, BLM is moving forward without having completed a full cultural inventory or identification of the impacts.

Based on information obtained from a BLM Resource Advisory Committee meeting for the Rio Puerco Field Office, it is clear that the BLM is also struggling to complete a full cultural resources analysis for the deferred March 2018 parcels. Based on the location of the June 2019 parcels, the issues are no different and BLM must ensure that this analysis is complete before allowing leasing. Indeed, unless these inventories are completed before the lease sale, the BLM cannot impose any stipulations to protect these cultural resources because after a lease has been issued, “the lessee has the right to use as much of the leased land as necessary to explore (or drill) for, extract, remove, and dispose of oil and gas deposits located under the leased lands with exceptions for restrictions that may be imposed consistent with the standard lease terms and the stipulations and notices attached to the lease.” 43 C.F.R. 3101.1-2.
Air and light pollution, noise, and vehicle traffic from BLM-authorized oil and gas development all have the potential to adversely affect landscape-level historic properties such as the Park and Chaco Protection Sites that are within the boundaries of both the FFO and RPFO. As a result, a comprehensive “landscape-level” analysis of impacts is required before BLM can approve any more leases for wells in the Mancos Shale formation.

B. BLM Has Not Adequately Consulted with Tribes.

As noted above, the BLM is required to “consult with Indian Tribes and the state historic preservation office (“SHPO”) regarding the results of identification efforts. Id. at § 800.4(b)(1). Consultation involves a comprehensive assessment of actual adverse impacts on historic properties and of ways to “avoid, minimize or mitigate the adverse effects,” including proposing alternatives. 36 C.F.R. § 800.6(a). In particular, “[t]he agency official shall ensure that consultation in the section 106 process provides the Indian tribe or Native Hawaiian organization a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, articulate its views on the undertaking’s effects on such properties, and participate in the resolution of adverse effects.”

As noted above, consultation involves a comprehensive assessment of actual adverse impacts on historic properties and of ways to “avoid, minimize or mitigate the adverse effects,” including proposing alternatives. 36 C.F.R. § 800.6(a) (emphasized). Despite this mandate, the BLM is directly ignoring calls from both the Navajo Nation and the All Pueblo Council of Governors requesting moratoriums on leasing, fracking, and drilling until the Mancos RMP Amendment process is complete. See FFO EA at 36. The BLM’s failure to address Tribal interests and concerns does not suffice to meet the requirements of the NHPA.

III. BLM Fails to Balance Multiple Uses under FLPMA’s Unnecessary and Undue Degradation Provision.

Finally, pursuant to FLPMA, “[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 All. 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 BLM must balance multiple uses in its management of public lands, including “recreation, range, timber, minerals, watersheds, 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 All., 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 P’ship 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 and RPFO through the June 2019 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 and RPFO 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)). Unfortunately, BLM fails to specifically account for UUD in its EA for the June 2019 lease sale.

IV. BLM Should Use Its Discretion Not to Lease the Proposed Parcels.

The BLM has broad discretion and remove the parcels from nomination. The agency’s chosen path of opening this culturally sacred area up to oil and gas development would threaten our communities, climate, clean air, clean water, and many other resources. Quite simply, developing this area for oil and gas represents an unnecessary and avoidable risk that would threaten New Mexico’s other important multiple use resources.

BLM has broad discretion – and often the responsibility, though too often ignored – not to lease public lands for minerals development to safeguard other multiple use, environmental,
and human health resources and values. See, e.g., Udall v. Tallman, 380 U.S. 1 (1965); Rocky Mountain Oil & Gas Ass’n v. U.S. Forest Serv. 157 F.Supp.2d 1142 (D. Mont. 2000). BLM’s authority to open these parcels to oil and gas development is derived from the Mineral Leasing Act of 1920, 30 U.S.C. § 181 et seq. Nowhere does the Mineral Leasing Act (“MLA”) mandate that any particular lands be offered for lease. Rather, the Act states generally that “[a]ll lands subject to disposition under this chapter which are known or believed to contain oil or gas deposits may be leased by the Secretary.” 30 U.S.C. § 226(a) (emphasis added). The Ninth Circuit has held that the “permissive word ‘may’ in § 226(a) allows the Secretary to lease such lands, but does not require him to do so…. [T]he Secretary has discretion to refuse to issue any lease at all on a given tract.” Burglin v. Morton, 527 F.2d 486, 488 (9th Cir. 1975). The Supreme Court reached the same conclusion in Udall v. Tallman, 380 U.S. 1, 4 (1965), in which the Court declared that the Mineral Leasing Act “left the Secretary discretion to refuse to issue any lease at all on a given tract.” See also Bob Marshall Alliance v. Hodel, 852 F.2d 1223, 1230 (9th Cir. 1988) (providing that refusal to issue leases constitutes a “legitimate exercise of the discretion granted to the Interior Secretary”); McDonald v. Clark, 771 F.2d 460, 463 (10th Cir. 1985) (“While the statute gives the Secretary the authority to lease government lands under oil and gas leases, this power is discretionary rather than mandatory.”); McTiernan v. Franklin, 508 F. 2d 885, 887 (10th Cir. 1975) (under § 226(a), the government “may refuse to issue any lease at all on a given tract”); Pease v. Udall, 332 F.2d 62, 63 (9th Cir. 1964) (finding that the MLA “has consistently been construed as leaving to the Secretary, within his discretion, a determination as to what lands are to be leased thereunder”); Pacific Legal Found. v. Watt, 529 F.Supp. 982, 991 n.14 (D. Mont. 1982) (under § 226(a) “the Secretary has discretion either to issue or refuse to issue oil and gas leases”).

Indeed, BLM’s discretion over oil and gas leasing is so great that courts have held that the agency may decide not to allow leasing even after the lands have been offered for lease and a qualified applicant selected. In McDonald, the Tenth Circuit Court of Appeals provided: “The fact that land has been offered for lease does not bind the Secretary to actually lease the land, nor is the Secretary bound to lease the land when a qualified applicant has been selected.” 771 F.2d at 463. The Court continued, saying “the Secretary may withdraw land from leasing at any time before the actual issuance of the lease, even if the offer was filed long before the determination not to lease was made.” Id. (citing Arnold v. Morton, 529 F.2d 1101, 1106 (9th Cir. 1976); Schraier v. Hickel, 419 F.2d 663, 665-67 (D.C. Cir. 1969)).

Moreover, nothing in the Federal Onshore Oil and Gas Leasing Reform Act (“FOOGLRA”) requires BLM to open lands at the behest of the oil and gas industry. The MLA, as amended by FOOGLRA in 1987, 30 U.S.C. § 181 et seq., simply requires BLM to consider oil and gas leasing on land consistent with the RMP. As identified above, just because land is identified for leasing does not mean that it must be leased. If review of a potential lease proposed for sale reveals problems, or that other resources and values should be protected, the agency can decide not to lease, period, and in fact, may be duty-bound, pursuant to laws such as FLPMA, not to lease to ensure that other resources and values are protected. For example, in Marathon Oil Co., 139 IBLA 347 (1997), BLM removed parcels from a competitive lease sale for environmental reasons, even after they had been offered for sale pursuant to industry nomination. In that case, the IBLA held that “BLM enjoys considerable discretion to depart from its RMP in any specific case, and it may well be able to justify excluding these parcels from leasing for
environmental purposes.” *Id.* at 356.

The MLA and FOOGRLA do not in any way restrict the factors that BLM may consider when exercising its considerable discretion under § 226(a). Therefore, even if the BLM bases its decision entirely on the public’s overwhelming opposition to oil and gas development in this area, it has the authority to do so. Indeed, it would be irresponsible for BLM to propose these lease parcels for sale without first performing the necessary due diligence and environmental review to determine, on a site-specific basis, whether these lands should be conserved as is. Based on this expansive authority and discretion, we ask BLM to reconsider its assent to the nomination of parcels in June 2019 and remove all parcels from consideration.

V. **Conclusion**

The Citizen Groups appreciate your consideration of the information and concerns addressed herein, as well as the information included in the attached exhibits and incorporated comments. In general, we are once again alarmed at the BLM’s plans to lease more of the Greater Chaco Region in the June 2019 lease sale. This approach 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, FLPM, and NHPA. Accordingly, the agency should defer action on the proposed lease parcels until these deficiencies are addressed.

Sincerely

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