



November 18, 2020

Protest filed via ePlanning and email

U.S. Bureau of Land Management
Colorado State Office
Attn. Jamie Connell, State Director
2850 Youngfield Street
Lakewood, CO 80215
BLM_CO_LeaseSale@blm.gov

Re: Protest of the Colorado BLM's December 17, 2020 Competitive Oil and Gas Lease Sale

Dear State Director Connell:

Pursuant to 43 C.F.R. § 3120.1-3, WildEarth Guardians, Center for Biological Diversity, Waterkeeper Alliance, Western Watersheds Project, Colorado Sierra Club, and Living Rivers/Colorado Riverkeeper (hereinafter "Conservation Groups") submit the following protest of the U.S. Bureau of Land Management ("BLM's") decision to offer 42 parcels of publicly-owned land totaling 47,455.440 acres within the Royal Gorge, Little Snake, and Kremmling Field Offices through its December 17, 2020 competitive oil and gas lease sale. BLM's decision is predicated on two environmental assessments ("EAs")¹ and two findings of no significant impacts ("FONSI").² On September 14, 2020 the Conservation Groups submitted comments and associated exhibits on both EAs. We incorporate those comments and exhibits in this protest by reference.

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

¹ The EA for Royal Gorge Field Office parcels ("RGFO EA"), DOI-BLM-CO-F020-2020-0041-EA, is available at: https://eplanning.blm.gov/public_projects/2000012/200383113/20028215/250034417/RGFO_EA_Dec2020_Protest.pdf. The EA for the Little Snake/Kremmling parcels ("LS/K EA"), DOI-BLM-CO-050-2020-0037-EA, is available at: https://eplanning.blm.gov/public_projects/2000032/200383114/20028217/250034419/NWD_EA_Dec2020_Protest.pdf.

² The FONSI for Royal Gorge parcels is available at: https://eplanning.blm.gov/public_projects/2000012/200383113/20028214/250034416/RGFO_FONSI_Dec2020_Protest.pdf. The FONSI for Little Snake/Kremmling parcels is available at: https://eplanning.blm.gov/public_projects/2000032/200383114/20028216/250034418/NWD_FONSI_Dec2020_Protest.pdf.

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The Conservation Groups protest the inclusion of all 42 parcels (COC 079946 through COC 079987):

COC 079946	COC 079960	COC 079974
COC 079947	COC 079961	COC 079975
COC 079948	COC 079962	COC 079976
COC 079949	COC 079963	COC 079977
COC 079950	COC 079964	COC 079978
COC 079951	COC 079965	COC 079979
COC 079952	COC 079966	COC 079980
COC 079953	COC 079967	COC 079981
COC 079954	COC 079968	COC 079982
COC 079955	COC 079969	COC 079983
COC 079956	COC 079970	COC 079984
COC 079957	COC 079971	COC 079985
COC 079958	COC 079972	COC 079986
COC 079959	COC 079973	COC 079987

INTERESTS OF THE PROTESTING PARTIES

WildEarth Guardians is a nonprofit environmental advocacy organization dedicated to protecting the wildlife, wild places, wild rivers, and health of the American West. Guardians members live, work, and recreate on or near many of the proposed lease parcels. On behalf of our members, Guardians works to ensure the BLM fully protects public lands and resources as it conveys the right for the oil and gas industry to develop publicly-owned minerals. Specifically, Guardians works to ensure BLM meaningfully and genuinely takes into account all of the implications of its oil and gas leasing decisions, including impacts to public health, air quality, water quality and quantity, and our climate from the release of more greenhouse gas emissions known to contribute to global warming.

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 Colorado 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.

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.

Western Watersheds Project is a non-profit organization with more than 9,500 members and supporters. Our mission is to protect and restore western watersheds and wildlife through education, public policy initiatives and legal advocacy. Western Watersheds Project and its staff and members use and enjoy America's public lands and their wildlife, cultural and natural resources for health, recreational, scientific, spiritual, educational, aesthetic, and other purposes. Western Watersheds Project also has a direct interest in mineral development that occurs in areas with sensitive wildlife populations and important wildlife habitat.

Sierra Club is a national nonprofit organization of approximately 3 million members and supporters dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Colorado Chapter of the Sierra Club has members who live near and recreate in the public lands that would be affected by the oil and gas lease sale. Expanded fossil fuel development in the area would harm the interests of Sierra Club members, including their interests in quiet recreation, aesthetic pursuits, and spiritual renewal.

Living Rivers & Colorado Riverkeeper is a 501(c)(3) nonprofit organization that empowers a movement to instill a new ethic of achieving ecological restoration, balanced with meeting human needs. Living Rivers works to RESTORE inundated river canyons, wetlands and the delta, REPEAL antiquated laws which represent the river's death sentence, REDUCE water and energy use and their impacts on the river, and RECRUIT constituents to aid in reviving the Colorado.

As discussed in more depth below, BLM's federal fossil fuel program is currently unsustainable for a livable world. Thus, we request that BLM stop approving any additional oil and gas leasing across the West, including all of the parcels in this lease sale. Should BLM choose to continue leasing, we request, at a minimum, that it refrain from offering all the parcels up for lease for the December 2020 sale unless and until it completes its requirements under the Federal Land Policy and Management Act of 1976 ("FLPMA"), 43 U.S.C. §§ 1701–1787; the National Environmental Policy Act of 1976 ("NEPA"), 42 U.S.C. §§ 4321–4370h; NEPA regulations promulgated thereunder by the White House Council on Environmental Quality ("CEQ"), 40 C.F.R. § 1500, *et seq.*, and the Mineral Leasing Act, 30 U.S.C. §§ 181–287.

As an initial matter, we understand that on July 16, 2020 the Council of Environmental Quality ("CEQ") issued a final rule ("Final Rule") rewriting the entirety of its 1978 National Environmental Policy Act ("NEPA") implementing regulations.³ However, the Final Rule did not become effective until September 14, 2020, after BLM had initiated its environmental review of the proposed December 2020 lease sale. BLM should continue to apply CEQ's NEPA implementing regulations as they were codified when BLM began the environmental review for this lease sale because applying the Final Rule retroactively would risk the consistency and coherence of the review that has been conducted to this point. Moreover, BLM should not apply the Final Rule to this proposed lease sale because the Final Rule is significantly flawed and unlawful for the reasons we describe below. To the extent BLM relies on or applies the Final Rule for the purpose of administering this oil and gas lease sale, BLM's reliance on and/or application of the Final Rule is unlawful for the following reasons:

- CEQ and Mary Neumayr, Chair of the CEQ, acted arbitrarily, capriciously, and contrary to NEPA, in violation of the APA, 5 U.S.C. § 706(2), by failing to prepare an EA or Environmental Impact Statement ("EIS") on the Final Rule, and by failing to evaluate alternatives to, and the full direct, indirect, and cumulative impacts of, the Final Rule;

³ Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act; Final Rule, 85 Fed. Reg. 43,304 (July 16, 2020) (to be codified at 40 C.F.R. Part 1500).

- CEQ and Mary Neumayr acted arbitrarily, capriciously, and contrary to law by failing to analyze how the Final Rule and its implementation would affect the directive of Executive Order 12898 and CEQ’s longstanding policy and practice of fully analyzing the environmental justice impacts of its actions;
- CEQ and Mary Neumayr violated NEPA and the APA by issuing regulations that are inconsistent with the statutory purpose and language of NEPA; and
- CEQ and Mary Neumayr acted in excess of statutory authority by issuing the Final Rule.

STATEMENT OF REASONS

I. BLM Fails to Complete a General Conformity Analysis for the Proposed Parcel in Weld County within the Denver-Metro-North Front Range Ozone Nonattainment Area as Required by the Clean Air Act.

The Colorado Department of Health and Environment commented on the EAs for the December 2020 lease sale, stating that BLM must address the proposed lease sale’s potential contribution of ozone to the Denver-Metro-North Front Range Ozone (“DMNFR”) Nonattainment Area, but BLM failed to properly address this issue by revising the EA with a General Conformity Analysis. *See* EA at 104.

The Clean Air Act requires the Environmental Protection Agency (“EPA”) to set National Ambient Air Quality Standards (“NAAQSs”) to protect public health and welfare. 42 U.S.C. § 7409. After EPA designates NAAQS, states are required to develop State Implementation Plans (“SIPs”) to implement, maintain, and enforce the NAAQSs. *Id.* § 7410(a)(1).

Federal agency actions must comply with SIPs and the NAAQSs. Specifically, under the Clean Air Act’s “general conformity” provisions, “[n]o department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve, any activity” that does not conform to an approved state SIP. 42 U.S.C. § 7506(c)(1). “The assurance of conformity . . . shall be an affirmative responsibility of the head of such . . . agency.” *Id.* Thus, federal agency actions must not 1) “cause or contribute to any new violation of any [air quality] standard,” 2) “increase the frequency or severity of any existing violation of any standard in any area,” 3) or “delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.” *Id.* § 7506(c)(1)(B).

EPA has designated parts of the Denver Metro-North Front Range area, including part of Weld County where one lease parcel for the December 2020 sale is located, as in “serious”

nonattainment with the 2008⁴ NAAQS for ozone and “marginal” nonattainment for the 2015⁵ NAAQS for ozone. Ozone is a compound harmful to human health that is created when volatile organic compounds (“VOCs”) and nitrogen oxides (“NOx”) react with sunlight.⁶ As a result of EPA’s designation, the State of Colorado has enacted a SIP which includes provisions to control ozone formation within the Denver Metro-North Front Range 8-hour Ozone Non-Attainment Area.⁷ Thus, for each activity permitted by a federal agency within the Denver Metro-North Front Range ozone nonattainment area, BLM must complete an “applicability analysis” to determine if a formal conformity determination is needed. *See* 40 C.F.R. § 93.152 (defining applicability analysis).

With the “bump up” of the Denver area to “serious” nonattainment for the 2008 standard, emissions levels triggering a conformity analysis have decreased. Now, any activity which has direct and indirect emissions of VOCs or NOx that equal or exceed 50 tons/year requires a formal conformity determination. *Id.* § 93.153(b)(1). Direct emissions are defined as those emissions that are caused or initiated by the Federal action and occur at the same time and place as the action. *Id.* § 93.152. Indirect emissions are defined as those emissions that are caused by the Federal action, but may occur later in time or distance, and are reasonably foreseeable, and which the Federal agency can practically control and will maintain control over. *Id.* “Reasonably foreseeable emissions are projected future direct and indirect emissions that are identified at the time the conformity determination is made; the location of such emissions is known and the emissions are quantifiable as described and documented by the Federal agency based on its own information and after reviewing any information presented to the Federal agency.” *Id.*

Notwithstanding these provisions, EPA’s conformity regulations exempt from emissions calculations “[t]he portion of an action that includes major or minor new or modified stationary sources that require a permit under the New Source Review (NSR) program (Section 110(a)(2)(c) and Section 173 of the [Clean Air] Act) or the [Clean Air Act’s] prevention of significant deterioration program (title I, part C of the Act).” *Id.* § 93.153(d)(1) (hereinafter “NSR exemption”). EPA has interpreted this exemption narrowly.⁸

⁴ EPA, Finding of Failure to Attain and Reclassification of Denver Area for the 2008 Ozone National Ambient Air Quality Standard, 84 Fed. Reg. 70,897, 70,897 (Dec. 26, 2019), <https://www.govinfo.gov/content/pkg/FR-2019-12-26/pdf/2019-27485.pdf>; *see also* 40 C.F.R. § 81.306.

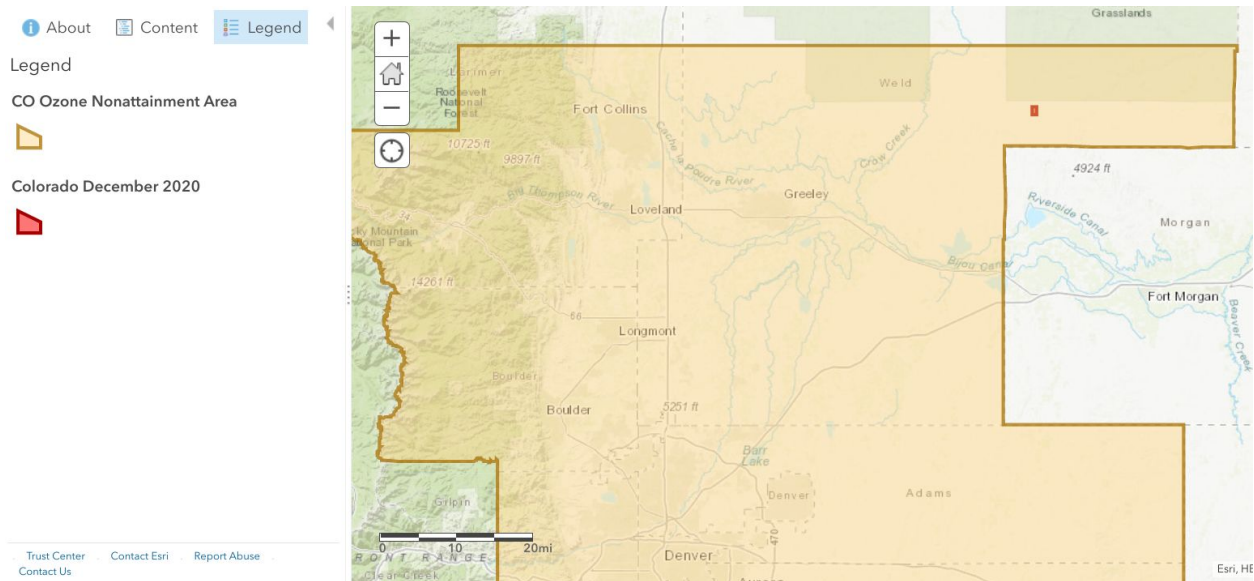
⁵ EPA, Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards, 83 Fed. Reg. 25,776, 25,792, <https://www.gpo.gov/fdsys/pkg/FR-2018-06-04/pdf/2018-11838.pdf#page=1>; *see also* 40 C.F.R. § 81.306.

⁶ Exhibit A, EPA, *Ozone Pollution*, <https://www.epa.gov/ozone-pollution>, (last visited Mar. 16, 2020); *see also* EPA, National Ambient Air Quality Standards for Ozone, 80 Fed. Reg. 65,292, 65,302–81 (Oct. 26, 2015) (detailing the science supporting lowering the ozone standard from 75 to 70 parts per billion).

⁷ Colorado’s entire SIP is available online at 5 Colo. Code Regs. §§ 1001-01–06, 08, 09, 12–14, 18, 20 (2018), <https://www.sos.state.co.us/CCR/NumericalCCRDList.do?deptID=16&agencyID=7>; *see also* *EPA Approved Statutes and Regulations in the Colorado SIP*, <https://www.epa.gov/sips-co/epa-approved-statutes-and-regulations-colorado-sip> (last visited Mar. 16, 2020). The provisions applicable to the 8-hour ozone nonattainment area are found at 5 Colo. Code Regs. § 1001-09 XII, XVI (2018), <https://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7774&fileName=5%20CCR%201001-9>.

⁸ *See* EPA, Determining Conformity of General Federal Actions to State or Federal Implementation Plans, 58 Fed. Reg. 63,214, 63,232 (Nov. 30, 1993) (hereinafter “1993 EPA Conformity Rules”) (explaining in response to a

Here, because one of the proposed parcels (parcel COC 079957) is within the boundary of the Denver Metro–North Front Range 8-hour Ozone Non-Attainment Area, BLM must assess whether leasing these parcels complies with the Clean Air Act’s conformity provisions. Unfortunately, BLM failed to complete such an assessment here.



Map of the DMNFR Ozone Nonattainment Area (in light brown) and the December lease sale parcel within the NAA (in red).

BLM has a number of excuses as to why it fails to assess conformity. First, BLM argues that “leasing does not authorize emissions generating activities, and therefore does not directly result in an emissions increase.” RGFO EA at 43. But, this argument completely ignores the plain language of the conformity provisions which require an analysis of *both* direct and indirect emissions. 40 C.F.R. § 93.153(b) (requiring a conformity determination for “each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the rates in paragraphs (b)(1) or (2) of this section”). Thus, because the definition of indirect emissions is met here, BLM still must complete a conformity determination.

As noted above, a federal agency must analyze indirect emissions, if they are:

request to expand activities subject the NSR exemption to those where an air quality analysis occurs, that “an air quality analysis is not adequate by itself to justify an exemption from the conformity rules since it does not sure that actions would be prohibited, as necessary to prevent a NAAQS violation”); *see also* Exhibit B, EPA Comments on the Normally Pressured Lance Natural Gas Development Project Draft Environmental Impact Statement (concluding that the NSR exemption only applies to stationary emissions sources permitted under a federally-approved state permitting program and that drill rigs did not count as stationary sources) (document obtained from a Freedom of Information Act request).

- (1) caused or initiated by the Federal action and originate in the same nonattainment or maintenance area but occur at a different time or place as the action;
- (2) reasonably foreseeable;
- (3) the agency can practically control them; and
- (4) the agency has continuing program responsibility over them.

40 C.F.R. § 93.152. All of these criteria are met. First, conformity regulations broadly define federal action to include: “any activity engaged in by a department, agency, or instrumentality of the Federal government, or any activity that a department, agency or instrumentality of the Federal government supports in any way, provides financial assistance for, licenses, permits, or approves.” *Id.* And, “[w]here the Federal action is a permit, license, or other approval for some aspect of a non-Federal undertaking, the relevant activity is the part, portion, or phase of the non-Federal undertaking that requires the Federal permit, license, or approval.” *Id.* Here, oil and gas development of federal minerals cannot occur without federal agency action to lease the minerals; BLM has the sole power to grant access to development through a lease sale. Indeed, after the lease issuance, BLM cannot prohibit development on the parcel. 43 C.F.R. § 3101.1-2; *New Mexico ex. rel. Richardson v. U.S. Bureau of Land Mgmt.*, 565 F.3d 683, 717–18 (10th Cir. 2009); *see also WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 64–65 (D.D.C. 2019) (holding that “an agency cannot defer analyzing the reasonably foreseeable environmental impacts of an activity past the point when that activity can be precluded”). Thus, BLM is required to analyze conformity of the lease sale now.

Second, BLM argues that emissions are not reasonably foreseeable. But, there is no doubt BLM has the tools to assess emissions from the lease parcels. Indeed, it includes estimated emissions in the draft EA (see below). RGFO EA at 41-42. Specifically, BLM estimates that during construction, one well will result in 12.35 tons per year of NO_x emissions. *Id.* If more than 9 wells are drilled from the parcel within the Denver Metro-Front Range Ozone Nonattainment Area, BLM is required to conduct a formal conformity analysis. And, 9 wells could reasonably result from this parcel. In the Royal Gorge’s September 2019 lease sale EA, BLM estimated that 30-50 wells are developed per township in Weld County.⁹ Although the proposed parcel in the nonattainment area has a total acreage smaller than a township (320 acres v. 23,040.1 acres), it is possible that the wells co-developed with the federal minerals could be greater than nine.

Emission Range Estimates for Proposed Parcels (tons/year)

Range ID	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	CO ₂	CH ₄	N ₂ O	HAPs
Per Well Construction	2.63	0.77	4.09	12.35	9.65	0.37	1,774	4.70	0.11	0.19

⁹ Exhibit C, BLM, Environmental Assessment for the September 2019 Competitive Oil & Gas Lease Sale, DOI-BLM-CO-F020-2019-0025-EA (May 2019).

Lower Bound Construction	34.19	10.01	53.17	160.55	125.5	4.81	23,062	61.1	1.43	2.47
Upper Bound Construction	220.9	64.68	343.5	1,037	810.6	31.1	149,016	394.8	9.24	15.96
Per Well Production	0.15	0.08	3.69	2.48	3.55	0.03	1,486	0.26	0.00	0.23
Lower Bound Production	1.95	1.04	47.97	32.24	46.15	0.39	19,318	3.38	0.00	2.99
Upper Bound Production	12.60	6.72	309.9	208.32	298.2	2.52	124,824	21.84	0.00	19.32

For example, many of the proposed federal APDs in the Weld County area are wells which also drill into state and private minerals and which the operator might not undertake without access to federal minerals.¹⁰ Thus, the total emissions fueled by the federal action here—leasing one parcel in the DMNFR Ozone Nonattainment Area—is likely much larger than the emissions that will result from federal minerals.

To the extent that BLM claims that total wells will not exceed de minimis levels, BLM never explained how it arrived at the number of proposed wells, what exemptions it considered applicable (e.g. the NSR exemption), and whether it considered potentially connected state well emissions in order to support its conclusion. BLM hints that an applicability analysis is not required because emissions will likely be below de minimis levels triggering such an analysis. *See* RGFO EA at 44. But, if BLM does not know the total level of emissions that will occur before this exemption is applied, it cannot conclude that any sources permitted under NSR will lower emission levels under the 100 tons per year de minimis levels. And, as we have noted before, BLM frequently, and unlawfully expands this exemption to mobile sources such as drill rigs contrary to the plain language of 40 C.F.R. § 93.153(d)(1) which exempts only “[t]he portion of an action that includes major or minor new or modified stationary sources that require a permit under the new source review (NSR) program (Section 110(a)(2)(c) and Section 173 of the Act) or the prevention of significant deterioration program (title I, part C of the Act).”

BLM also argues that emissions are not reasonably foreseeable because “[a]n onshore lease sale is analogous to the example provided in 40 C.F.R. § 93.153(c)(3)(i), [exempting] ‘Initial Outer Continental Shelf lease sales which are made on a broad scale and are followed by exploration and development plans on a project level.’” RGFO EA at 44. But, onshore oil and gas lease sales are not made on a broad scale, programmatic scale like Outer Continental Shelf (“OCS”) lease sales. *See Ctr. for Biol. Diversity v. U.S. Dept. of the Interior*, 563 F.3d 466, 473 (D.C. Cir. 2009) (describing the OCS process). Instead, it is the RMP process that is comparable to the OCS lease sale exemption.

¹⁰ Exhibit D, BLM, Environmental Assessment, Great Western Operating Company Baseline Brant APDs Project, DOI-BLM-CO-F020-2019-0010-EA (Mar. 2019) (finding 15% of the proposed emissions from private minerals to be a connected action).

Finally, BLM must look at the collective impacts of leasing within the nonattainment area. EPA recently “bumped up” the Denver nonattainment to serious nonattainment with the 2008 ozone standard; clearly, air quality is getting worse. Thus, BLM must do everything within its power and as required by the Clean Air Act, to address its contribution to the ozone problem. Here, this means taking responsibility for its federal oil and gas leasing and the development which results at the earliest possible stage. As EPA made clear when developing its general conformity regulations, it discourages the segmentation of projects into de minimis actions. EPA’s Question & Answer document, which accompanied the 1993 regulations, underscores this conclusion, finding in the context of an example about prescribed burns in a land management plan that “to the extent that emissions from all or some of the burns were reasonably foreseeable at the time the plan was developed, the cumulative effect should be considered.” Moreover, NEPA undoubtedly requires BLM to assess the cumulative impacts of its proposed action on ozone levels in the DMNFR Ozone Nonattainment Area. *See* 40 C.F.R. § 1508.7. BLM has not produced the hard look analysis of its leasing program and the December 2020 lease sale and must postpone this sale unless and until this analysis is completed.

II. BLM Fails to Ensure the Lease Sale Complies with 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 that “protect, restore, and enhance the environment.” *Id.* § 1500.1(c).

NEPA regulations explain that:

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

Id.

To fulfill the goals of NEPA, federal agencies are required to analyze the “effects,” or impacts, of their actions to 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 . . . requir[ing] that agencies take a *hard look* at environmental consequences”). 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 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 Environmental Impact Statement (“EIS”). *See* 40 C.F.R. § 1502.3.

Federal agencies determine whether direct, indirect, or cumulative impacts are significant by accounting for both the “context” and “intensity” of those impacts. *Id.* § 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: the 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)(3), (4), (5), (7).

Within an EA or EIS, the scope of the analysis must include “[c]umulative actions” and “[s]imilar actions.” *Id.* §§ 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 FLPMA. FLPMA requires that the Secretary of Interior manage public lands “in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values.” 43 U.S.C. § 1701(a)(8). To achieve this, “[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.” *Id.* § 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. Both BLM regulations and BLM’s Land Use Planning Handbook provide 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.” 43 C.F.R. § 1610.5-6; BLM Land Use Planning Handbook, H-1610-1, Section VII.C at 46. Furthermore, amendments are encouraged whenever there is a need to

“[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.” 43 C.F.R. § 1610.5-5; Handbook Section VII.B at 45.

When 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 agency 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 an EIS accompanying a 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 or 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).

Finally, BLM is also required to ensure that its on-the-ground actions conform with the existing RMP. 43 U.S.C. § 1732(a); *see also* 43 C.F.R. § 1610.5-3 (“All future resource management authorizations and actions . . . shall conform to the approved plan.”). “The statutory directive that BLM manage ‘in accordance with’ land use plans, and the regulatory requirement that authorizations and actions ‘conform’ to those plans, prevent BLM from taking actions inconsistent with the provisions of a land use plan.” *Norton v. S. Utah Wilderness Alliance*, 542 U.S. 55, 69 (2004).

A. BLM’s Proposal to Lease Parcels in Las Animas and Weld Counties May Result in Significant Impacts and Prejudice Alternatives for the Draft Eastern Colorado RMP and EIS.

For the Royal Gorge Field Office parcels, the applicable land use plans are the Northeast Resource Area Plan (approved in 1986, amended in 1991) and Royal Gorge Resource Management Plan (approved in 1996, amended in 2009).¹¹ BLM is currently in the process of updating both of these plans and developing the combined Eastern Colorado RMP.¹² BLM is also developing a final EIS to analyze the impacts of land management posed by the RMP.

NEPA specifically forbids agency action that limits alternatives while a federal agency is revising a programmatic EIS.

¹¹ Both RMPs are available on the BLM’s ePlanning website at: <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=99527>.

¹² The draft RMP and EIS are available on BLM’s ePlanning website at: <https://eplanning.blm.gov/eplanning-ui/project/39877/570>. BLM has not finalized the plan.

While work on a required program environmental impact statement is in progress and the action is not covered by an existing program statement, agencies *shall not* undertake in the interim any major Federal action covered by the program which may significantly affect the quality of the human environment unless such action:

- (1) Is justified independently of the program;
- (2) Is itself accompanied by an adequate environmental impact statement;
- and*
- (3) Will not prejudice the ultimate decision on the program. Interim action prejudices the ultimate decision on the program when it tends to determine subsequent development or limit alternatives.

40 C.F.R. § 1506.1(c) (emphases added).

Here, the December 2020 lease sale fails to meet any of the criteria above that would permit the lease sale to move forward absent the finalization of the programmatic EIS currently in progress. Work on the new Eastern Colorado RMP is clearly ongoing with a draft released but no final RMP, EIS, or record of decision, and the proposed action is not covered by an existing EIS. As BLM admits in its 2018 Reasonably Foreseeable Development Scenario (RFDS), the use of horizontal drilling coupled with multi-stage hydraulic fracturing, collectively fracking, has drastically changed the nature of development in the area, not only resulting greater volumes of oil and gas per well (thereby increasing impacts to air quality and other resources) but also allowing development in areas previously thought uneconomical.¹³ Indeed, as BLM notes, “a typical horizontal well may produce up to 50 times more gas than a typical shallow Niobrara gas or CBM well.”¹⁴ These statements are echoed in BLM’s 2015 Analysis of the Management Situation, which analyzes the need for revision of the Eastern Colorado RMP.¹⁵ In the AMS, BLM notes:

Drilling activity over the last few years in the Denver-Julesburg Basin has increased significantly. New horizontal drilling and hydraulic fracturing techniques developed in other similar geological formations, such as the Barnett in Texas, and the Bakken in North Dakota, are being successfully applied to economically extract oil from the Niobrara formation in the Denver-Julesburg Basin. In addition to producing large volumes of oil and gas from each well, this new technology also makes it practical to drill many wells on one pad, so fewer pads are needed to drill more wells, and drain larger blocks of mineral estate.¹⁶

¹³ BLM, 2018 Addendum to the 2012 Reasonable Foreseeable Development Scenario for Oil and Gas, Royal Gorge Field Office, Colorado at 1–4, https://eplanning.blm.gov/epl-front-office/projects/lup/39877/160710/196486/RGFO_RFD__addendum.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 1).

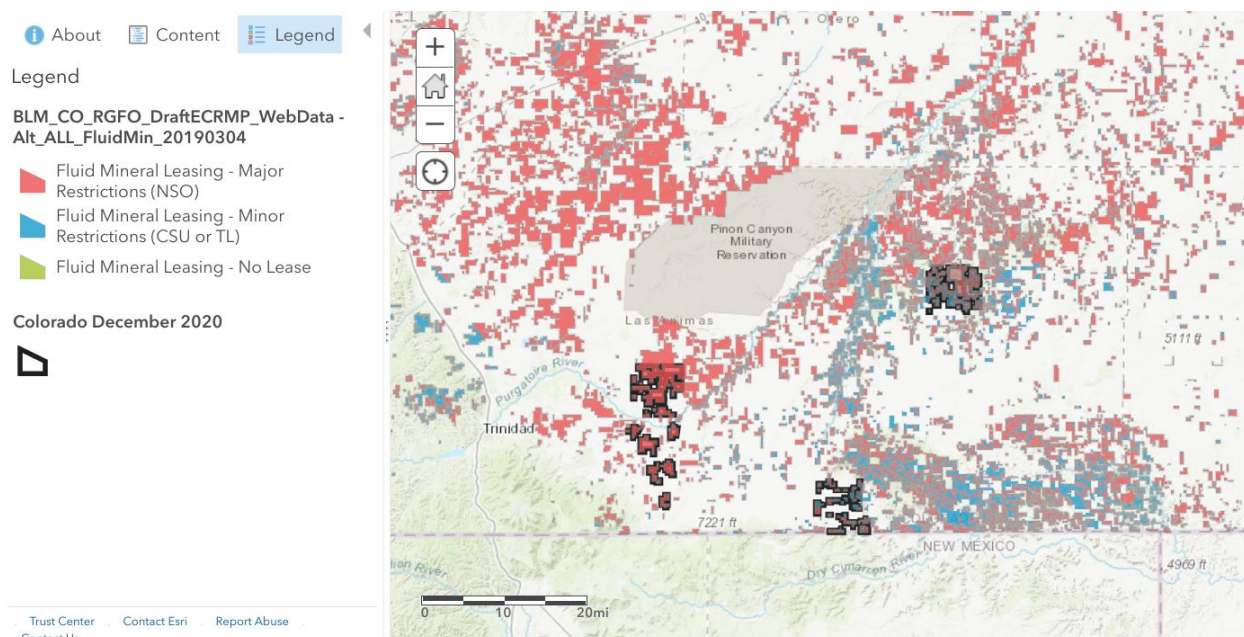
¹⁴ *Id.* at 3.

¹⁵ BLM, Analysis of the Management Situation for the Eastern Colorado Management Plan (2015), https://eplanning.blm.gov/epl-front-office/projects/lup/39877/59426/64617/AMS_for_Eastern_CO_RMP.4.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 2).

¹⁶ *Id.* at 168–69.

Ultimately, the type of oil and gas development in Eastern Colorado, particularly in the Denver-Julesburg Basin, has changed drastically. With this new scale of development comes unanticipated impacts to the environment.¹⁷ For example, fracking has worsened air quality in the area, with the Denver Metro-North Front Range ozone nonattainment area now in serious violation of federal air quality standards.¹⁸ BLM’s “current” RMPs fail to account for this significant, new development.

BLM’s proposal to approve all of the parcels in Las Animas County and parcel COC 079957 in Weld County directly prejudices proposed alternatives under the draft Eastern Colorado RMP. For example, according to different alternatives being evaluated in the Eastern Colorado RMP, nearly all of the parcels proposed in the fourth quarter lease sale are proposed to have either a no surface use stipulation or controlled surface use stipulation.¹⁹



Parcels in Las Animas County proposed for the December 2020 lease sale are outlined in black in the map above. Parcels in red are proposed for no surface occupancy under Alternative A of the draft Eastern Colorado RMP.

¹⁷ 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)* 1, 18 (6th ed. 2019) (hereinafter “Fracking Compendium”) (“As fracking operations in the United States have increased in frequency, size, and intensity, and as the transport of extracted materials has expanded, a significant body of evidence has emerged to demonstrate that these activities are dangerous to people and their communities in ways that are difficult—and may prove impossible—to mitigate. Risks include adverse impacts on water, air, agriculture, public health and safety, property values, climate stability, and economic vitality, as well as earthquakes.”) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 3).

¹⁸ Coop. Inst. for Research in Env’tl. Sci. at the Univ. of Colo. Boulder, Oil and Gas Emissions a Major Contributor to Bad Ozone Days, Nov. 3, 2017, <https://cires.colorado.edu/news/oil-and-gas-emissions-major-contributor-bad-ozone-days> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 4).

¹⁹ See map below; see also Draft Eastern CO RMP at K-10; K-11.

Once the lease sale is held, BLM will no longer be able to consider an alternative that forbids oil and gas development on these parcels even if the agency determines that this is necessary and decides to adopt Alternative A. Interestingly, this is exactly one of the excuses that BLM uses to deny consideration of a “no leasing alternative” for the proposed Eastern Colorado RMP.²⁰ This also is exactly the situation NEPA seeks to protect against—having an agency commit to a new activity that predetermines its analysis and limits its future alternatives. Unfortunately, by offering these leases, BLM is ignoring its responsibilities under NEPA.

In sum, in order for BLM to comply with FLPMA and NEPA, BLM must either postpone the lease sale until the Eastern Colorado RMP-EIS is complete or complete a stand-alone EIS for the December 2020 lease sale parcels. BLM’s answer to our September 14, 2020 comments on the draft EA is not responsive. BLM fails to explain why leasing the parcels in Weld and Las Animas Counties would not prejudice the development of the ECRMP. And, to BLM’s response that impacts from potential oil and gas development have been sufficiently analyzed in the EA and do not require analysis in an EIS, we direct BLM to the discussion of impacts in the protest below.

B. BLM Must Prepare an EIS to Assess Potentially Significant Impacts from All of the Lease Sale Parcels.

Because the December 2020 lease sale poses potentially significant impacts not analyzed by an existing NEPA document, BLM must prepare an EIS before leasing the proposed parcels.

A federal agency must prepare an EIS 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); *see also Airport Neighbors All. v. U.S.*, 90 F.3d 426, 429 (10th Cir. 1996). 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

²⁰ *See* BLM, *Preliminary Alternatives Report: Eastern Colorado Resource Management Plan* 10 (Mar. 2017), https://eplanning.blm.gov/epl-front-office/projects/lup/39877/98740/119608/ECRMP_PrelimAltsReport.pdf (“Closing all public lands in the planning area to new leasing of Federal fluid minerals, even where there are no identified resource conflicts, was considered but eliminated from further analysis. . . . [T]he Federal fluid mineral estate in much of the planning area has already been leased, and the majority of the leases are developed.”); *see also* Draft Eastern Colorado EIS at 2-2 (rejecting an alternative which would close “all public lands to new fluid mineral leasing” in part because “the federal fluid mineral estate in much of the planning area has already been leasing and the majority of leases are developed”) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 5).

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.” As detailed in the section on hydraulic fracturing below, there is no doubt that the proposed action, which would allow for the use of fracking, will impact public health and safety.²¹ Unfortunately, because the underlying Northeast Resource Area Plan and Royal Gorge Resource Management Plan and Environmental Impact Statement (collective “NE RMP-EIS”)²² is severely out of date and does not include any analysis of the impacts of fracking, BLM cannot rely on these documents to conclude that no significant impacts will occur.

Moreover, both the RGFO EA and the LS/K EA fail to include a discussion of the impacts from fracking, including failing to calculate water used for the procedure, air pollution produced, impacts to public health, and impacts to wildlife. Indeed, the RGFO only discusses fracking in response to comments and not in the body of the EA. *See* RGFO EA at 100. And, in RGFO EA’s response to comments, BLM refers the reader to a section 1.6 in the RGFO EA, which does not exist. *Id.* BLM’s response to comments on this topic in the LS/K EA simply defers its impact analysis to a later stage in the permitting process, which is improper as we discuss further below.

To fully assess whether the proposed lease sale poses significant impacts, BLM must analyze, quantify, and disclose the impacts of fracking in an EIS. Unless and until this occurs, both EAs for the December lease sale are deficient and in violation of NEPA. BLM cannot rely on the analyses in its Reasonably Foreseeable Development Scenario (“RFDS”) to correct this gap either. *See* Royal Gorge EA at 17–18; *see* Little Snake/Kremmling EA at 27. The RFDS is not a NEPA document, was not subject to public comment, and therefore cannot replace the need for an EIS.

²¹ *See* Fracking Compendium, *supra*, at 18; Env’t America, *Fracking by the Numbers: Key Impacts of Dirty Drilling at the State and National Level* 8–10 (2013) (hereinafter “*Fracking by the Numbers*”) (“In Colorado, approximately 340 of the leaks or spills reported by drilling operators engaged in all types of oil and gas drilling over a five-year period polluted groundwater.”) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 6); Physicians for Soc. Responsibility, *Health Impacts of Fracking*; *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”); *see also* TEDX, *Scientific Literature Addressing the Health Effects of Unconventional Oil and Gas Development* (2018) (hereinafter “TEDX Health Effects”) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 7).

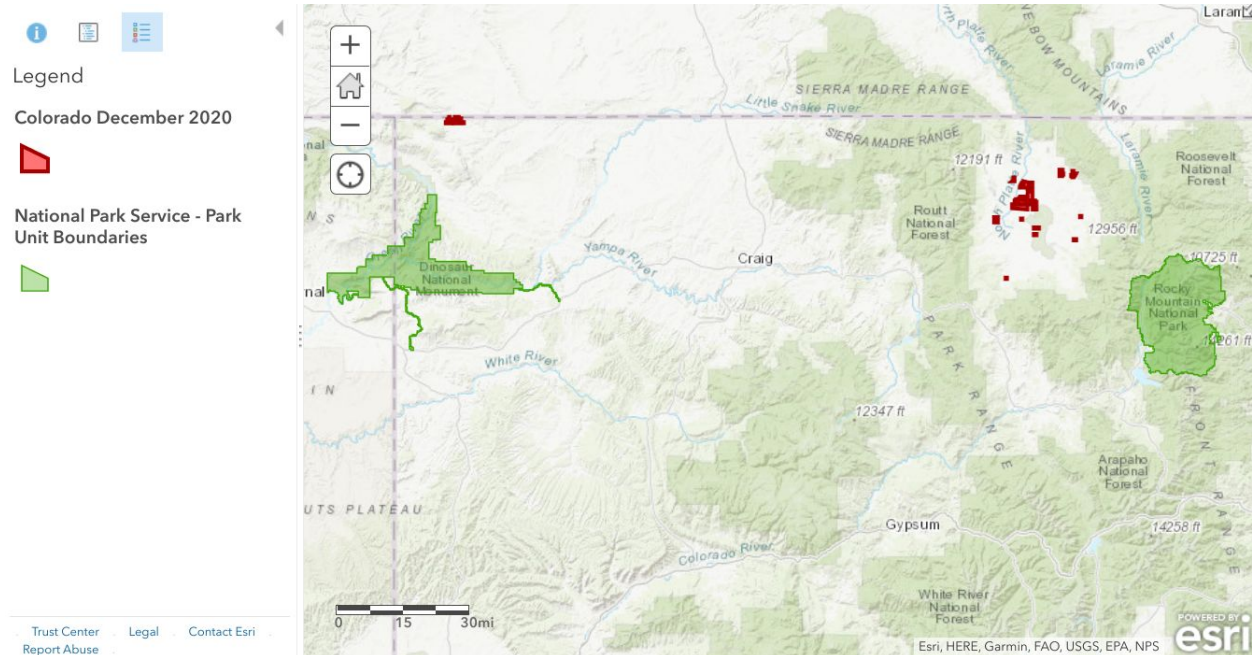
²² According to the EA, the applicable land use plans for the Royal Gorge Field Office parcels are the Northeast Resource Area Plan (approved in 1986, amended in 1991) and Royal Gorge Resource Management Plan (approved in 1996, amended in 2009). EA at 15. BLM is currently in the process of updating both of these plans and developing the combined Eastern Colorado RMP in conjunction with a draft 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. The situation here is directly comparable 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. Fracking consistently presents a risk of contamination, and oil and gas in Colorado consistently occurs near populated areas, thereby resulting in public outcry and threats to health and safety.²³ Indeed, ozone levels in the Denver area are far above public health standards largely as a result of oil and gas development driven by the fracking boom. Ozone levels on the Western Slope are similarly situated.²⁴ BLM cannot ignore this obvious, and highly controversial, impact of fracking.

Additionally, based on the proximity of the December 2020 lease sale parcels to Rocky Mountain National Park, Arapaho National Wildlife Refuge, and Dinosaur National Monument, 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.

²³ See generally exhibits cited in note 14, supra; see also Clean Air Task Force, *Fossil Fumes: A Public Health Analysis of Toxic Air Pollution from the Oil and Gas Industry* 13 (2016), <http://www.catf.us/resources/publications/files/FossilFumes.pdf> (“Based on EPA’s projection of 2017 emissions, six counties in Colorado will face elevated cancer risk due to toxic emissions from oil and gas operations—Garfield, La Plata, Phillips, Rio Blanco, Weld, and Yuma.”) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 8).

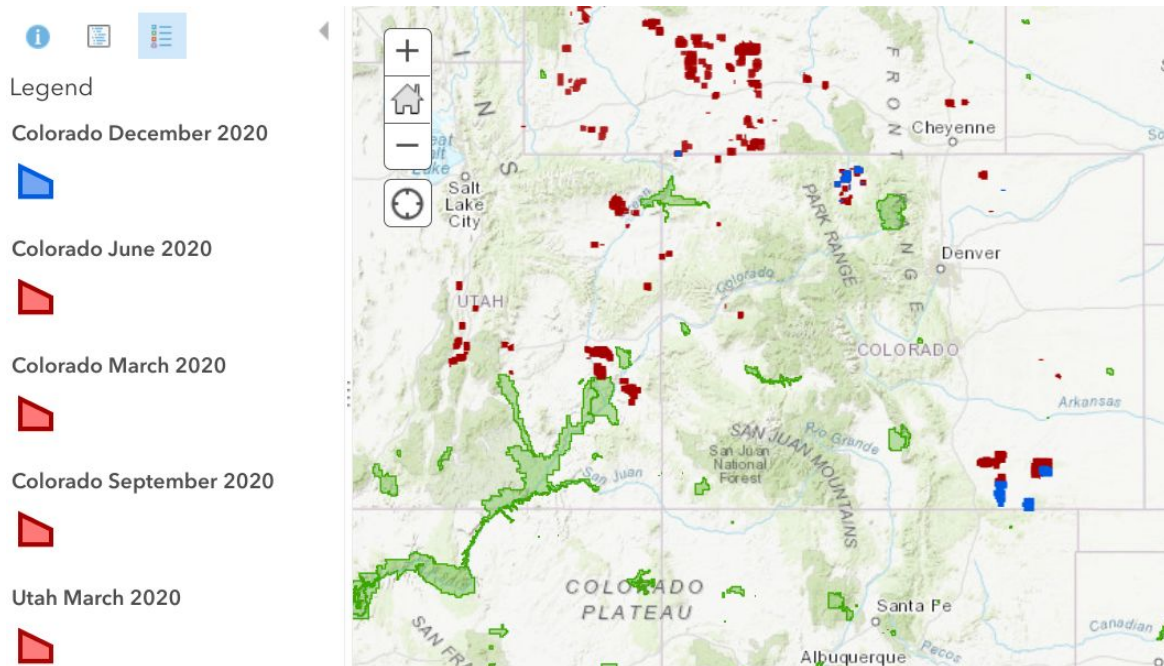
²⁴ Jason Plautz, In the Rural West: More Oil, More Gas, More Ozone, *Mother Jones*, Aug. 23, 2018, <https://www.motherjones.com/politics/2018/08/in-the-rural-west-more-oil-more-gas-more-ozone/> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 9). Indeed, Colorado BLM has predicted, through its air modelling studies, ozone exceedances at its Rangely monitor under every development scenario. CARMMS 2.0 at 167.



The December 2020 Little Snake/Kremmling parcels are in red and in close proximity to Rocky Mountain National Park, Arapaho National Wildlife Refuge, and Dinosaur National Monument.

Finally, because the December 2020 lease parcels are very near many of the Colorado, Utah, and Wyoming BLM’s 2020 lease sale parcels, and countless existing oil and gas wells, the fifth intensity factor, cumulative impacts, is also implicated by the lease sale, further underscoring the need for an EIS. According to NEPA regulations, “[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.” 40 C.F.R. § 1508.27(b)(7). This latter sentence is particularly important here. The December 2020 lease sale is not occurring in a vacuum. Indeed, both the December 2020 parcels in the Little Snake/Kremmling and Royal Gorge Field Offices are within a few miles of many of the March 2020 parcels in Colorado and the June 2020 parcels in Wyoming. All of these states regularly hold state lease sale auctions as well.²⁵ BLM must catalogue these sales and study the cumulative impacts of these similar actions occurring within the same area. *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 77, 83 (D.D.C. 2019); *WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, No. CV-18-73-GF-BMM, 2020 WL 2104760, at *11 (D. Mont. May 1, 2020).

²⁵ See, e.g., Colorado State Land Board, Oil & Gas Auction Information and Results, <https://docs.google.com/document/d/1A8yfmfXmcMtx802wRxktdSuzkFeCrF5tE9XT8ms3Qa0/edit> (last visited June 12, 2020) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 10).



BLM's 2020 parcels are in red. The December 2020 parcels are in blue.

Despite this, BLM's cumulative impacts analysis of past, present, and future oil and gas development is limited. In the RGFO EA, BLM plainly piecemeals its analysis, stating on multiple occasions that "Every parcel is unique and cumulative impacts will need to be thoroughly addressed in the APD stage." *See, e.g.*, RGFO EA at 25 (impacts to special status species and potential conservation areas), 27 (impacts to big game habitat and raptor nesting), 29 (impacts to migratory birds); Little Snake/Kremmling EA at 8-22 (deferring any analysis of impacts to resource issues such as water, wildlife, impacts from fracking, environmental justice and others, until the APD stage). BLM also fails to analyze the impacts from any other BLM leases occurring in the same region.

BLM chose to limit the information the agency could consider to support its conclusion that no significant impacts will occur. However, the potential impacts associated with the December 2020 lease sale, as we discussed in our comments and in this protest, are significant and BLM must produce an EIS to more thoroughly analyze and evaluate these impacts. We explain, below in more detail, why it was improper for BLM to defer NEPA analysis of issues to later stages of the oil and gas development process.

C. BLM Cannot Defer Its Site-Specific Analyses for All Parcels to the Application Permit to Drill Stage.

BLM is required to complete a site-specific NEPA analysis before proceeding with the proposed lease sale. Yet as we discussed above, in a number of places throughout the EA, BLM defers a full analysis to the APD stage. *See, e.g.*, RGFO EA at 25 (impacts to special status species and potential conservation areas), 27 (impacts to big game habitat and raptor nesting), 29 (impacts to migratory birds).

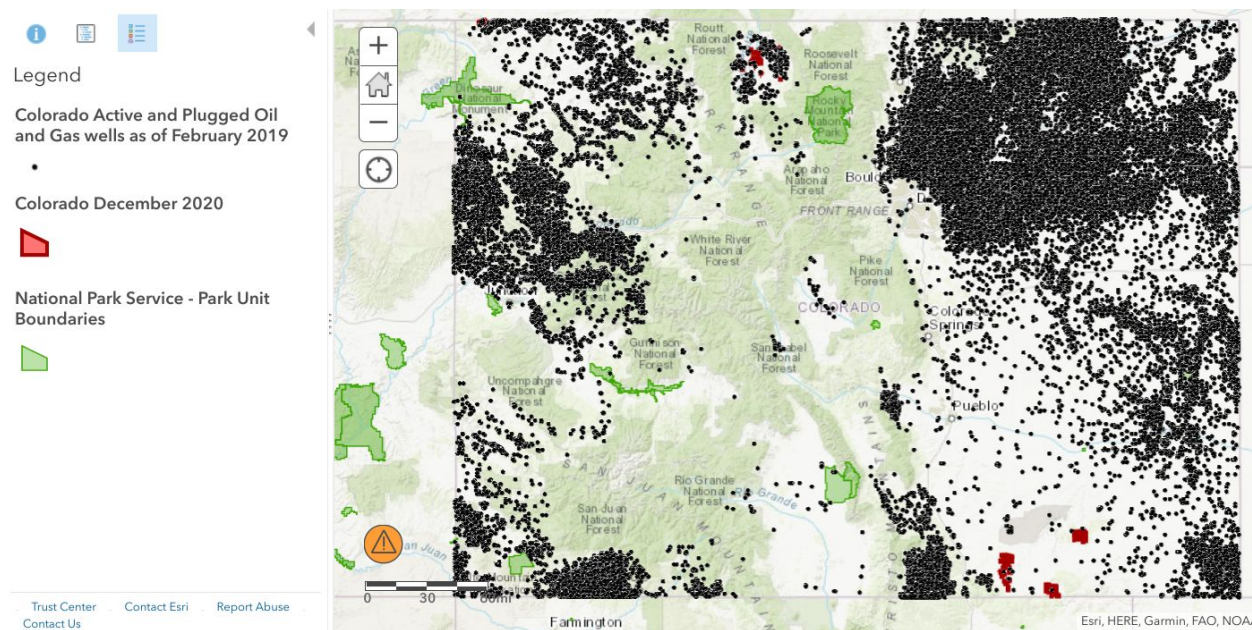
BLM has previously relied on *Park County Resource Council v. U.S. Department of Agriculture*, 817 F.2d 609 (10th Cir. 1987), to support its contention that site-specific NEPA analysis is not required until the APD stage. In *Park County*, the court provided that “with appropriate lease stipulations 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).

Further, *Park County* cannot be understood in a vacuum. As the Tenth Circuit 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. 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 v. Bureau of Land Mgmt., 565 F.3d 683, 717–18 (10th Cir. 2009) (internal citations omitted). Thus, “[t]he operative inquiry [is] simply whether all foreseeable impacts of leasing [are] taken into account before leasing [can] proceed.” *Id.* at 717.

Here, unlike in *Park County*, the impacts of leasing these parcels are reasonably foreseeable. As shown by the map below, there are a significant number of active oil and gas wells near the proposed parcels. Thus, as in *Richardson*, BLM is required to complete an EIS assessing the reasonably foreseeable effects of oil and gas development at the leasing stage before it irretrievably commits these lands to development.



The December 2020 parcels are buried beneath or surrounded by active and plugged wells as of February 2019.

Moreover, there is no doubt that oil and gas leasing is an irretrievable commitment of resources. As BLM’s own regulations state, 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. The 10th Circuit has affirmed this. *Sierra Club v. Hodel*, 848 F.2d 1068, 1093 (10th Cir. 1988) (agencies are to perform hard look NEPA analysis “before committing themselves irretrievably to a given course of action so that the action can be shaped to account for environmental values”). And, the D.C. District Court’s decision *WildEarth Guardians v. Zinke* recently reaffirmed this contention by relying on 30 years of supporting case law. 368 F. Supp. 3d 41, 66 (D.D.C. 2019) (citing *Sierra Club v. Peterson*, 717 F.2d 1409, 1414 (D.C. Cir. 1983)).

Because BLM fails to perform a site-specific analysis at the lease stage, BLM’s authority is thereafter limited to imposing mitigation measures consistent with the terms of the lease as opposed to preventing impacts. In other words, BLM is not able to impose conditions inconsistent with the lease terms, and it cannot deny the developer the right to drill altogether. This approach is fundamentally incongruous with NEPA’s mandate. The Ninth Circuit has noted: “In a way, reliance on mitigation measures presupposes approval. It assumes that – regardless of what effects construction may have on resources – there are mitigation measures that might counteract the effect without first understanding the extent of the problem. This is inconsistent with what NEPA requires.” *Northern Plains Resource Council v. Surface Transp. Bd.*, 668 F.3d 1067, 1084–85 (9th Cir. 2011).

Finally, the need to conduct NEPA analysis at the lease sale stage is further underscored by the fact that the BLM more often than not fails to analyze and assess impacts at the drilling stage. In fact, in the Royal Gorge Field Office, the agency frequently categorically excludes drilling permits from any NEPA analysis, meaning no site-specific analysis of environmental

impacts even occurs. For example, in 2017, the Royal Gorge Field Office approved 35 new wells through the expansion of existing well pads. *See* BLM, DOI-BLM-CO-F020-2017-0019-CX through -0021-CX; DOI-BLM-CO-F020-2017-0023-CX; DOI-BLM-CO-F020-2017-0025-CX; DOI-BLM-CO-F020-2017-0042-CX through -0044-CX; DOI-BLM-CO-F020-2017-0087-CX.²⁶

As these categorical exclusions indicate, unless the BLM actually commits, through the imposition of stipulations, to conduct additional NEPA analysis at the drilling stage, BLM sometimes fails to complete additional analysis. This means any commitment to address the impacts of the 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.

BLM points to various uncertainties regarding the nature and siting of subsequent oil and gas development to support its decision not to analyze site specific impacts. RGFO EA at 19; LS/K EA at 32. But, these uncertainties need not be fully resolved before BLM completes its analysis. Impacts must merely be reasonably foreseeable. “Reasonable forecasting and speculation is . . . implicit in NEPA, and we must reject any attempt by agencies to shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as ‘crystal ball inquiry.’” *High Country Conservation Advocates v. United States Forest Serv.*, 52 F. Supp. 3d 1174, 1196 (D. Colo. 2014) (quoting *Scientists’ Inst. for Pub. Info. v. Atomic Energy Comm’n*, 481 F.2d 1079, 1092 (D.C. Cir. 1973)). It strikes us as arbitrary that, on the one hand, BLM is more than capable of estimating and planning for future oil and gas development (including calculating the revenue, royalties, and economic benefits), *see* ECRMP at 15-23, but on the other hand, BLM is unable, for example, to estimate and project the quantity of water that would be needed to support the proposed leases or how much waste the leases would produce, *see*, e.g., LS/K EAs 14-18. BLM must analyze site-specific impacts before it irretrievably commits resources to oil and gas development.

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

Because the BLM essentially analyzes only two alternatives, one no action and two full leasing alternatives, RGFO EA at 15-16, LS/K EA at 21-24, BLM fails to analyze a range of reasonable alternatives.

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). This includes considering alternatives which decrease the amount of lands dedicated to fossil fuel development. *See Western Org. of Resource Councils v. U.S. Bureau of Land Mgmt.*, CV 16-21-GF-BMM, 2018 WL 1456624, at *9 (D. Mont. Mar. 23, 2018) (holding 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”).

²⁶ For an example of the limited analysis contained in these CXs, *see* BLM, Section 390 Categorical Exclusions for Oil and Gas Development, DOI-BLM-CO-F020-2017-0087 CX, <https://eplanning.blm.gov/epl-front-office/projects/nepa/81178/115369/140898/DOI-BLM-CO-F020-2017-0087-CX.pdf>.

“The EA, while typically a more concise analysis than an EIS, must still evaluate the need for the proposal, alternatives as required by NEPA section 102(2)(E), and the environmental impacts of the proposed action and alternatives.” *See High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp. 3d 1174 (D. Colo. 2014); *see also* 42 U.S.C. § 4332(E) (requiring agencies 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”).

For example, here, BLM failed to consider deferring any of the “very low” development potential parcels in Las Animas County even though such an alternative is well within its multiple use mandate. Any information regarding the financial solvency of the lease nominators, the estimated cost of BLM staff time to prepare lease sale documents, and a deeper assessment of the development potential of the parcels would be relevant to include in an analysis of the suggested alternative. Because BLM fails to include any such information in the draft Royal Gorge EA, it fails to analyze a range of reasonable alternatives.

In response to our September 14, 2020 comments recommending reasonable and distinct alternatives for analysis, BLM argued that the range of alternatives (the preferred alternative and a no action alternative) were sufficient for BLM to make an informed decision whether to offer to lease all, none or some of the parcels, but BLM is wrong on this count. RGFO EA at 97; LS/K EA Response to Comments at 14. First, as we have discussed above, BLM simply has not conducted a sufficient impact analysis from which a decisionmaker could make an informed decision as to the impacts of the December 2020 lease sale. But, second, without a middle-ground alternative there is no reasoned way for a decisionmaker to compare the benefits and impacts of the alternatives we proposed in our September 14, 2020 comments on the EA with the benefits and impacts of the extreme alternatives to which BLM limited its analysis.

E. BLM Fails to Take a “Hard Look” at the Impacts of Hydraulic Fracturing.

The need for BLM to postpone the December 2020 lease sale pending a more complete NEPA analysis is further underscored by the fact that BLM has yet to take a “hard look” at the impacts of fracking.

NEPA imposes “action forcing procedures . . . requir[ing] that agencies take a hard look at environmental consequences.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (citations omitted). “Taking a hard look includes considering all foreseeable direct and indirect impacts . . . [and] involve a discussion of adverse impacts that does not improperly minimize negative side effects.” *League of Wilderness Defs.-Blue Mountains Biodiversity Project v. U.S. Forest Serv.*, 689 F.3d 1060, 1075 (9th Cir. 2012) (citing *N. Alaska Envtl. Ctr. v. Kempthorne*, 457 F.3d 969, 975 (9th Cir. 2006)) (internal quotations omitted).

Multiple courts have held that if 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 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”); *ForestWatch v. U.S. Bureau of Land Mgmt.*, 2016 WL 5172009, Case No. CV-15-4378-MWF (JEMx) (C.D. Cal. Sept. 6, 2016) (accord); *Dine Citizens Against Ruining Our Environment v. Bernhardt*, 923 F.3d 831, 851 (2019) (holding that BLM needed to—but did not—consider the cumulative impacts to water resources associated with the 3,960 reasonably foreseeably horizontal Mancos Shale wells.”).

With the use of fracking comes a myriad of potentially significant environmental impacts.²⁷ 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 different and more intense impacts to our public health, air, water, land, and wildlife. *Diné Citizens Against Ruining Our Env’t v. Jewell*, No. CIV 15-0209 JB/SCY, 2015 WL 4997207, at *11 (D.N.M. Aug. 14, 2015), *aff’d*, 839 F.3d 1276 (10th Cir. 2016) (finding that “directional drilling causes roughly double the surface impacts of vertical drilling on a well-for-well basis” and that “[i]t can take five to ten times more water to frack a directionally drilled well than a vertical well.”).

Here, BLM’s existing NEPA analyses for the underlying RMPs²⁸ completely omit any analysis of the impacts of fracking. This is not surprising considering the fact that widespread use of fracking as an extraction technique did not occur until the early 2000s.²⁹ But, today, 67% of the U.S.’s natural gas comes from wells that use fracking, and 50% of the U.S.’s oil comes from wells that use fracking. *Id.* Industry estimates that more than 90% of the new wells drilled today use fracking.³⁰ While the BLM’s omission of a discussion of the impacts from fracking in the RMPs/FEISs is not surprising, it is certainly an omission that the 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 has confirmed the impacts of fracking in multiple non-NEPA documents. In its AMS for the Eastern Colorado RMP, BLM notes that “[r]apidly advancing technology . . . plays

²⁷ *See generally* Fracking Compendium, Fracking By the Numbers, & TEDX Health Effects, *supra*.

²⁸ For Royal Gorge parcels, neither the Northeast Resource Area Plan (approved in 1986, amended in 1991) nor the Royal Gorge Resource Management Plan (approved in 1996, amended in 2009), discuss the impacts of fracking. *See generally* NE ARP and RGRMP at:

<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=99527>. The Kremmling RMP and Little Snak Proposed RMP-FEIS also defer any detailed analysis to the APD stage. *See, e.g.*, Kremmling RMP at 4-99; Little Snake RMP-FEIS Appx. H at H-4 to H-6.

²⁹ U.S. Energy Info. Admin., *Hydraulically Fractured Horizontal Wells Account For Most New Oil And Gas Wells*, Jan. 30, 2018, <https://www.eia.gov/todayinenergy/detail.php?id=34732> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 12).

³⁰ Western Energy All., *What is Fracking?*, <https://www.westernenergyalliance.org/why-western-oil-natural-gas/what-fracking> (last visited Mar. 16, 2020).

a factor in what resources can be economically developed,” and that “[n]ew horizontal drilling and hydraulic fracturing techniques developed in other similar geological formations, such as the Barnett in Texas, and the Bakken in North Dakota, are being successfully applied to economically extract oil from the Niobrara formation in the Denver-Julesburg Basin.”³¹ The agency also notes that “the vast majority of [APDs] recently reviewed by the RGFO [Royal Gorge Field Office] have been for horizontal wells sited on multi-well pads and targeting oil in the Niobrara formation in the Denver-Julesburg Basin in Weld County.”³² In its 2018 RFDS for Royal Gorge, BLM admits that the use of horizontal drilling coupled with multi-stage hydraulic fracturing, collectively fracking, has drastically changed the nature of development in the area, not only resulting greater volumes of oil and gas per well (thereby increasing impacts to air quality as well) but also allowing development in areas previously thought uneconomical.³³ Put simply, the vast majority of oil and gas wells in the RGFO use horizontal drilling and fracking, a process which results in new and greater impacts to natural resources, and BLM has no comprehensive NEPA document which studies these impacts.

Unfortunately, BLM’s draft EAs for the RGFO and LS/K December 2020 parcels fail to remedy this omission. Despite the high likelihood that fracking will occur on the proposed parcels, BLM fails to fully analyze the potential impacts that will likely follow. For Royal Gorge, any analysis of the impacts is nonexistent. For the Little Snake/Kremmling, BLM includes information on the process of fracking and some general impacts, but fails to analyze the impacts from the specific parcels at issue on surrounding resources (e.g. Rocky Mountain National Park, Arapaho National Wildlife Refuge) and fails to analyze impacts to all potential resource issues such as public health and water quantity. BLM also does not include any specific information on the potential impacts from induced seismicity from fracking or the disposal of fracking wastewater³⁴ or on the potential for contamination of aquifers from both surface spills and casing failures. BLM’s analysis also fails to include an assessment of the impacts from fracking on the use and loss of freshwater,³⁵ roads and air quality³⁶ from fracking tanker truck traffic, impacts to air quality from fracking flowback and diesel engines, and impacts to human health from the

³¹ AMS, *supra*, at 168.

³² *Id.* at 169.

³³ 2018 RFDS, *supra*, at 1–4.

³⁴ There is evidence that southern Colorado has experienced induced seismicity from the injection of oil and gas wastewater. Dan Elliot, *CU Study: More Evidence Links Earthquakes to Energy Waste Wells Along Colorado-New Mexico Border*, Denver Post, Oct. 25, 2017 (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 13).

³⁵ Indeed, the decision in *San Juan Citizens Alliance* required this at the lease sale stage. *San Juan Citizens All. v. United States Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1254 (D.N.M. 2018) (holding “the record indicates that sufficient information is available at th[e lease sale] stage to make estimates of potential water usage for the different methods of hydraulic fracturing, and thus BLM must use that information in deciding whether the action results in a significant impact.”).

³⁶ According to the 2019 Fracking Compendium, “[v]olatile organic compounds (VOCs) from drilling and fracking operations, together with nitrogen oxides, are responsible for 17 percent of locally produced ozone in Colorado’s heavily drilled Front Range. (See footnote 160). Colorado has exceeded federal ozone limits for the past decade, a period that corresponds to a boom in oil and gas drilling (See footnote 158.) Air pollution near drilling and fracking operations is high enough in some Colorado communities to raise cancer risks, according to a 2018 study. (See footnote 145.)” Fracking Compendium, *supra*, at 25.

wide array of chemicals used. It is particularly concerning that BLM fails to consider the indirect impacts from fracking including the disposal of produced water contaminated with fracking chemicals, even though Colorado has reported instances of produced water being dumped into surface waters.³⁷

Similarly, although BLM provides some specifics on water quality, impacts to water quality do not solely occur at the fracking stage. The entire construction and production process provides numerous contamination pathways through drilling, water storage pits, spills of produced water, and other incidents.³⁸ Because of the use of fracking, oil and gas operations have been able to expand to areas previously though uneconomical. Moreover, EPA has found that “hydraulic fracturing water cycle . . . can impact drinking water sources under some circumstances.”³⁹ Specifically,

the presence of other wells near hydraulic fracturing operations can increase the potential for hydraulic fracturing fluids or other subsurface fluids to move to drinking water resources. There have been cases in which hydraulic fracturing at one well has affected a nearby oil and gas well or its fracture network, resulting in unexpected pressure increases at the nearby well, damage to the nearby well, or spills at the surface of the nearby well. These well communication events, or “frac hits,” have been reported in New Mexico, Oklahoma, and other locations.⁴⁰

In response, BLM continues to defer its analysis for groundwater to the APD stage, despite the fact that other BLM offices routinely analyze impacts to groundwater resources. For example, the New Mexico BLM has been including in its leasing EAs a breakdown of the average water use per horizontal well in the Pecos District (31.2 acre feet).⁴¹ BLM also points to dated studies regarding the risk from fracking fluid contamination. But, BLM’s frame is unnecessarily narrow (limited to contamination directly related to fracking, rather than the oil and gas process as a whole). BLM’s discussion of hydraulic fracturing in both EAs also failed to address the more comprehensive and more recent science in the Fracking Compendium which found:

³⁷ Colorado Oil & Gas Comm’n, Sampling and Analysis of Naturally Occurring Radioactive Material in Oil and Gas Produced Water 1, 114 (2019) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 14).

³⁸ Fracking Compendium, *supra*, at 78–113 (documenting studies on increased spill rates in Colorado, methane contamination in 42 wells in Colorado from well failures, benzene contamination from 77 spills in Weld County alone, and more than 350 instances of groundwater contamination from spills).

³⁹ EPA, Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States ES-3 (2016) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 15).

⁴⁰ *Id.* at ES-32.

⁴¹ BLM, Pecos District Office, September 2019 Competitive Oil and Gas Lease Sale, Draft Environmental Assessment, DOI-BLM-NM-P000-2019-0003 at 83 (2019), https://eplanning.blm.gov/epl-front-office/projects/nepa/120849/172557/209696/PDO_Sept_2019_Lease_Sale_EA_09May2019_508.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 17).

- Between 2005 and 2014, researchers surveyed spill record data from drilling and fracking operations in four states (Colorado, New Mexico, North Dakota, and Pennsylvania). During these nine years, they documented 6,678 total spills, or about five spills each year for every 100 wells. Between 2 and 16 percent of wells reported a spill each year.⁴²
- An interdisciplinary team led by University of Colorado researchers found methane in 42 water wells in the intensely drilled Denver-Julesburg Basin where high volume, horizontal fracking operations began in 2010. By examining isotopes and gas molecular ratios, the researchers determined that the gas contaminating these wells was thermogenic in origin, rather than microbial, and therefore had migrated up into the groundwater from underlying oil- and gas-containing shale. The steady rate of well contamination over time—two cases per year from 2001 to 2014—suggests that well failures, rather than the process of hydraulic fracturing itself, was the mechanism that created migration pathways for the stray gas to reach drinking water sources. Of the 42 affected wells, 11 had already been identified by state regulators as suffering from “barrier failures.”⁴³
- Data from the Colorado Oil and Gas Conservation Commission showed that fracking-related chemical spills in Colorado exceed an average rate of one spill per day. Of the 495 chemical spills that occurred in that state over a one-year period of time, nearly a quarter impacted ground or surface water.⁴⁴
- Researchers analyzing publicly available Colorado data found 77 surface spills impacting groundwater in Weld County alone.⁴⁵
- State data in Colorado showed more than 350 instances of groundwater contamination resulting from more than 2,000 spills from oil and gas operations over the past five years.

Indeed, BLM continues to ignore and leave unaddressed reports we cited to in our September 14, 2020 comments regarding the impacts of water contamination associated with fracking:⁴⁶

- In February 2019, the U.S. Justice Department reached a settlement with Antero Resources Corporation over claims that it violated the Clean Water Act at 32 different drilling and fracking-related sites in West Virginia. The violations involved unauthorized dumping of fracking waste into local waterways.
- In November 2018, three scientists found that contaminated drinking water in Pavillion, Wyoming was likely caused by gas leaking from faulty gas wells as well as by leaks from 40 unlined pits that, for many years, served as dumps for drilling wastewater. The scientists presented their findings to the community in advance of publishing a peer-reviewed scientific journal article. Statistical analyses show a

⁴² Fracking Compendium at 83.

⁴³ *Id.* at 87.

⁴⁴ *Id.* at 108.

⁴⁵ *Id.* at 113.

⁴⁶ Fracking Compendium, *supra*, at 70–79.

correlation between what was disposed in the pits and contaminants appearing in nearby drinking water wells. One of the former EPA scientists told community members that the Wind River Formation drinking water aquifer will likely never be cleaned up. A preliminary report from the EPA in 2011 about groundwater contamination in Pavillion was never finalized.

- In August 2018, a Yale University team collected drinking water samples from 66 households in Belmont County that were located at varying distances away from well pads and analyzed them for the presence of fracking-related chemical contaminants. They also interviewed residents about their health symptoms. The primary goal of this exploratory study was to determine whether residential proximity to fracked wells was related to detection and concentrations of health-relevant drinking water contaminants. A second objective was to evaluate possible relationships between proximity to wells and health complaints in the community. The team found that all homes had at least one volatile organic compound or other organic compound above detectable levels and that prevalence of contaminants in drinking water, including toluene, bromoform, and dichlorobromomethane, was higher in homes closer to the wells.
- In January 2018, the Pennsylvania Department of Environmental Protection determined that fracking wastewater that had leaked from a storage pit contaminated groundwater and rendered a natural spring used for drinking water in Greene County undrinkable.

Data also suggests that there is a greater risk for structural integrity issues, e.g. casing failures, between unconventional and conventional oil and gas wells.⁴⁷

In our September 14, 2020 comments, we also requested that BLM estimate water usage from the December 2020 lease sale, as other regional BLM offices do, but, again, BLM ignored and deferred a hard look at these impacts until a later stage. In *San Juan Citizens Alliance v. United States Bureau of Land Management*, 326 F. Supp. 3d 1227, 1252–54 (D.N.M. 2018), a challenge to oil and gas leases in a national forest, a federal district court held that “given several other cases in which water usage was quantified prior to the application for permit to drill stage, the Court is not persuaded by BLM’s unsupported conclusion that it did not have enough information to calculate water usage.” Following this, the New Mexico BLM has been including in its leasing EAs a breakdown of the average water use per horizontal well in the Pecos District (31.2 acre feet).⁴⁸ Moreover, the New Mexico BLM relied on a recent report by Andrew Kondash et al. describing the increasing water footprint of hydraulic fracturing⁴⁹ along with

⁴⁷ Anthony R. Ingraffea et al., Assessment and Risk Analysis of Casing and Cement Impairment in Oil and Gas Wells in Pennsylvania, 2000-2012, PNAS 1, 2 (2013) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 16).

⁴⁸ BLM, Pecos District Office, September 2019 Competitive Oil and Gas Lease Sale, Draft Environmental Assessment, DOI-BLM-NM-P000-2019-0003 at 83 (2019), https://eplanning.blm.gov/epl-front-office/projects/nepa/120849/172557/209696/PDO_Sept_2019_Lease_Sale_EA_09May2019_508.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 17).

⁴⁹ Kondash, A. J., et al., The Intensification of the Water Footprint of Hydraulic Fracturing. Science. (2018), <https://advances.sciencemag.org/content/advances/4/8/eaar5982.full.pdf> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 18).

information from FracFocus to calculate this number. This approach should have been applied to the December 2020 lease sale, and BLM should have used information from FracFocus and the many wells across the state to estimate water resources as required by law.

Finally, BLM's failure to analyze the impacts from fracking in the underlying RGFO and Eastern Colorado RMPs and FEISs not only violated NEPA but also violated FLPMA. As noted above, FLPMA requires that 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 significant new information from resource assessments, monitoring, or scientific studies that change land use plan decisions." 43 C.F.R. § 1610.5-6; BLM Land Use Planning Handbook, H-1610-1, Section VII.B at 45. At a minimum, the use of multi-stage fracking coupled with horizontal drilling constitutes a "new, intensified, or changed use[] on public land." Indeed, BLM essentially admits that this is the case in its Eastern Colorado AMS. Accordingly, BLM cannot move forward with leasing the parcels in this area until it either completes an amendment or update to the relevant RMPs-EISs or includes a full analysis of the impacts of fracking and horizontal drilling in a project-specific EIS.

F. BLM Fails to Take a Hard Look at the Direct, Indirect, and Cumulative Impacts that Will Result from Greenhouse Gas Emissions from the Proposed Action.

BLM also fails to fully analyze the direct, indirect, and cumulative greenhouse gas emissions that will result from the proposed actions, impacts from these emissions, and otherwise consider relevant, recent climate science.

Within the context of climate change, NEPA requires BLM to quantify and discuss the significance of the direct, indirect, and cumulative greenhouse gases generated by its proposed action. 40 C.F.R. §§ 1502.16 (outlining what's 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 consideration of climate change at the RMP stage); *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017) (requiring quantification of indirect, downstream greenhouse gas emissions from combustion of natural gas carried by a 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); *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 climate impacts at the oil and gas leasing stage); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41 (D.D.C. 2019) (requiring a robust analysis of the direct and indirect climate impacts from nine lease sales as well as a quantitative, regional cumulative impacts analysis of reasonably foreseeable BLM lease sales in the region); *WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, No. CV-18-73-GF-BMM, 2020 WL 2104760, at *1 (D. Mont. May 1, 2020) (requiring an assessment of the cumulative impacts on climate from oil and gas leasing, including an assessment of the lease sales "in combination with each other, not simply in the context of state and nation-wide emissions").

i. BLM's Comparison of the Impacts Between the No Action Alternative and the Preferred Alternative is Arbitrary.

To start, BLM’s assessment of the impacts between the no action alternative and the preferred alternative for both EAs is fatally flawed because it relies on the “perfect substitution” argument struck down by the court in *WildEarth Guardians v. United States Bureau of Land Management*, 870 F.3d 1222, 1234 (10th Cir. 2017). See Royal Gorge EA at 38-39, LS/K EA at 34, 41.

Here, BLM incorporates by reference and relies on Colorado BLM’s Annual Report (2.0) (“AR”) to compare the impacts of the No Action Alternative with the Proposed Action. Using the Bureau of Ocean Energy Management’s Market Simulation Model, BLM claims in the AR that it can model the market effects of “no development” scenarios. The AR concludes that a statewide federal no development scenario produces 91% of the greenhouse gas emissions associated with both the high and low oil and gas production scenarios. In other words, the AR concludes that potential greenhouse gas emissions and climate change impacts from “no development” alternatives would be similar to the potential emissions and impacts associated with new oil and gas production authorized by BLM.⁵⁰

But, there are a number of flaws with this conclusion. First, it is questionable whether the offshore oil and gas program as managed by BOEM is even comparable to the onshore oil and gas program. Second, as others have noted, BOEM’s model fails to account for the basic economic principles of supply and demand and instead assumes that much of the proposed oil and gas resources will be substituted by other sources.⁵¹ Studies have found that ending new oil leasing on U.S. federal lands and waters, and avoiding renewal of existing leases for resources that are not yet producing, would result in large GHG and climate benefits.⁵² The Tenth Circuit in *WildEarth Guardians v. United States Bureau of Land Management* agreed with this conclusion, noting “Even if we could conclude that the agency had enough data before it to choose between the preferred and no action alternatives, we would still conclude this perfect substitution assumption arbitrary and capricious because the assumption itself is irrational (i.e., contrary to basic supply and demand principles).” 870 F.3d 1222, 1236 (10th Cir. 2017). Finally, the Institute for Policy Integrity has also criticized the model’s failure to account for downstream greenhouse gas emissions.⁵³

⁵⁰ See Annual Report (2.0), Section 6, <https://www.co.blm.gov/AirResourcesReport/>.

⁵¹ See Institute for Policy Integrity, Subject: Comments on the 2017-2022 Outer Continental Shelf (OCS) Oil and Gas Leasing Proposed Program, BOEM-2016-0003 (2016), https://policyintegrity.org/documents/NYU_Policy_Integrity_BOEM_Comments_June_16_2016_with_appendix.docx.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 19).

⁵² Peter Erickson, P. & Michael Lazarus, *How Would Phasing Out US Federal Leases for Fossil Fuel Extraction Affect CO2 Emissions and 2°C Goals?*, Stockholm Environment Institute (2016) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 20); Erickson, P. and M. Lazarus, Impact of the Keystone XL Pipeline on Global Oil Markets and Greenhouse Gas Emissions, 4 *Nature Climate Change* 778 (2016) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 21); Metcalf, G, The Impact of Removing Tax Preferences for U.S. Oil and Gas Production, Council on Foreign Relations, August 2016 (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 22); Erickson, P., Rebuttal: Oil Subsidies—More Material for Climate Change Than You Might Think, November 2, 2017, <https://www.cfr.org/blog/rebuttal-oil-subsidies-more-material-climate-change-you-might-think> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 23).

⁵³ Institute for Policy Integrity, *supra*.

In our September 14, 2020 comments on the draft EAs for the December 2020 lease sale, we requested that BLM reconsider its use of the flawed MarketSim modelling in light of this information. In response, BLM restated that the both EAs relied on analysis conducted in the AR, using BOEM’s MarketSim model but without addressing any of the issues or concerns we raised in our comments, as restated above. We stand by these arguments and request BLM postpone the lease sale unless and until it can correct this analysis.

ii. BLM Fails to Accurately Assess the Direct and Indirect Greenhouse Gas Emissions That Will Result from the Lease Sale.

Although we appreciate that BLM finally estimates per parcel direct and indirect greenhouse gas emissions after years of claiming it was impossible, *see* RGFO EA at 41-42, Little Snake/Kremmling EA at 40-41, a number of errors remain. BLM calculated its estimates of potential direct and indirect emissions from the December lease sale, using EPA emission factors. However, studies have shown EPA’s emission factors to significantly underestimate emissions.⁵⁴ In our September 14, 2020 comments, we requested that BLM revise the EA using the more recent emissions information available in the 2018 USGS Emissions Report (Note 51, *infra*) or explain why it would be inaccurate to do so. BLM’s response to comments failed to answer or address this request. Again, we stand by our comment and reiterate our request that BLM postpone the lease sale unless and until BLM ensures its emission factors are not undercounting GHG emissions.

iii. BLM Fails to Analyze Cumulative Greenhouse Gas Emissions That Will Result from the Proposed Action.

BLM must also properly complete a cumulative impacts analysis of the proposed alternatives, including an assessment of the cumulative greenhouse gas emissions that will result. 40 C.F.R. §§ 1502.14, 1508.7; *Center for Biological Diversity v. National Highway Traffic Admin.*, 538 F.3d 1172, 1215 (9th Cir. 2008); *WildEarth Guardians v. BLM*, __ F. Supp. 3d __, No. CV-18-73-GF-BMM, 2020 WL 2104760 at * 12020 WL 2104760 at *10–11 (D. Mont. May 1, 2020). Specifically, BLM must analyze greenhouse gas emissions from any federal, state, and private oil and gas leasing and development projects as well as any other GHG-emitting projects in the region such as other lease sales, pipelines, etc. BLM must also analyze the cumulative GHG emissions from the federal fossil fuel program as a whole.

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

⁵⁴ Env’tl. Def. Fund, Major Studies Reveal 60% More Methane Emissions, <https://www.edf.org/climate/methane-studies>; Exhibit 25, Alvarez et al., Assessment of Methane Emissions from the U.S. Oil and Gas Supply Chain, 361 Science 186, 186 (2018) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 24).

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.

BLM is responsible for the management of a significant portion—700 million acres—of federal onshore subsurface minerals.⁵⁵ BLM has never studied the full climate impacts of its oil and gas leasing program in a comprehensive document. But, other agencies have quantified emission from federal fossil fuels. The U.S. Geological Survey (“USGS”) concluded in 2018 that “the ultimate downstream GHG emissions from fossil fuel extraction from federal lands and waters by private leaseholders could have accounted for approximately 23% of total U.S. GHG emissions (1,332 MMT of CO₂e).”⁵⁶ USGS also found that emissions from oil and gas development account for approximately 34% of federal GHG emissions (498.76 MMT CO₂e).⁵⁷ A separate report from EcoShift Consulting concluded that emissions from unleashed BLM reserves contain up to 450,000 MMT of CO₂e.⁵⁸

Here, BLM continues to fail to assess cumulative greenhouse gas emissions from reasonably foreseeable lease sales occurring in the region and nation as required by NEPA and the recent court decision in *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 63 (D.D.C. 2019). Instead, BLM solely looks at cumulative emissions in Colorado. This approach ignores emissions from BLM leases occurring just across the border in neighboring states. For example, BLM has sold, is selling, and will be selling thousands of acres of oil and gas leases, including:

- Colorado:
 - BLM sold 5 parcels (1,055.150 acres) at its March 2019 sale, https://eplanning.blm.gov/epl-front-office/projects/nepa/115103/169660/206230/Sale_Results_March2019.pdf.
 - For its June 2019 lease sale, BLM sold 17 parcels (8,176.84 acres), https://eplanning.blm.gov/epl-front-office/projects/nepa/119117/175852/214216/Sale_Results_June2019.pdf.
 - For its September 2019 lease sale, BLM sold 49 parcels (42,148.72 acres), https://eplanning.blm.gov/epl-front-office/projects/nepa/121040/20004618/250005475/Sale_Results_Sept2019.pdf.
 - For the March 2020 lease sale, BLM sold 9 parcels totaling 10,414.62 acres, https://eplanning.blm.gov/epl-front-office/projects/nepa/1501731/20015361/250020503/Sale_Results_March2020.pdf.

- New Mexico, Texas, Oklahoma, & Kansas:

⁵⁵ DOI, BLM, *How We Manage*, <https://www.blm.gov/about/how-we-manage> (last visited June 12, 2020).

⁵⁶ Merrill, M.D. et al., U.S. Geological Survey, *Federal Lands Greenhouse Gas Emissions & Sequestration in the United States: Estimates for 2005-14 (2018)* (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 27).

⁵⁷ *Id.* at 7 (adding together oil and gas related emissions provided in Table 1).

⁵⁸ Mulvaney et al., *The Potential Greenhouse Gas Emissions from U.S. Federal Fossil Fuels 1, 3 (2015)*, EcoShift Consulting (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 28).

- o At the March 2019 lease sale, BLM sold 36 parcels totaling 10,535.07 acres in New Mexico,
https://eplanning.blm.gov/epl-front-office/projects/nepa/115496/20010153/250013083/Sale_Results_03282019.pdf.
 - o At the June 2019 sale, BLM sold 47 parcels totaling 38,789.97 acres,
https://eplanning.blm.gov/epl-front-office/projects/nepa/119017/175501/213815/June_2019_New_Mexico_Oil_and_Gas_Lease_Sale_Results.pdf.
 - o At the September 2019 lease sale, BLM sold 15 parcels (3,174.08 acres),
https://eplanning.blm.gov/epl-front-office/projects/nepa/120851/20003079/250003684/September_2019_Lease_Sale_Results.pdf.
 - o At the November 2019 sale, BLM sold 16 parcels totaling 7,619.46 acres,
https://eplanning.blm.gov/epl-front-office/projects/nepa/122445/20008006/250009446/November_2019_Oil_and_Gas_Lease_Sale_Results.pdf.
 - o And, at its February 2020 lease sale, BLM sold 56 parcels totaling 14,671.54 acres in New Mexico,
https://eplanning.blm.gov/epl-front-office/projects/nepa/1500848/20012570/250017136/ResultsList022020_Updated.pdf.
- Utah:
 - o For March 2019, BLM sold 90 parcels totaling 135,123.47 acres,
<https://eplanning.blm.gov/epl-front-office/projects/nepa/117403/169445/206045/4UtahSaleResultsSummary.pdf>.
 - o For June 2019, BLM sold 8 acres totaling 9,822.52 acres,
https://eplanning.blm.gov/epl-front-office/projects/nepa/119572/174908/212467/3-June2019_CompSaleResultsSummary.pdf.
 - o For September 2019, BLM sold 63 parcels (70,345.40 acres),
<https://eplanning.blm.gov/epl-front-office/projects/nepa/121035/20003558/250004196/CompSaleResultsSummary.pdf>.
 - o For the December 2019 sale, BLM sold 16 parcels totaling 9,486.94 acres,
<https://eplanning.blm.gov/epl-front-office/projects/nepa/123688/20009969/250011670/UtahCompSaleResultsSummary.pdf>.
 - o And, for the March 2020 sale, BLM sold 22 parcels totaling 28,491.58 acres,
<https://eplanning.blm.gov/epl-front-office/projects/nepa/1501633/20014446/250019533/Mar2020CompSaleResultsSummary.pdf>.
 - Wyoming:
 - o In February 2019, the Wyoming BLM held a special lease sale selling 437 parcels,
<https://www.blm.gov/press-release/blm-wyoming-oil-and-gas-lease-sale-garners-nearly-88-million>.
 - o In March 2019, Wyoming sold 114 parcels,
https://eplanning.blm.gov/epl-front-office/projects/nepa/117392/169203/205794/Press_Release.20190320.pdf.
 - o In June 2019, BLM sold 151 parcels comprising 186,013.53 acres,
https://www.energynet.com/library/secure/mime/application/pdf/1735201/Sale_Results_June2019.pdf?s=cTBQtpAW5travjSRDQvV6w&e=1566622800.

- o In September 2019, BLM sold 175 parcels totaling 264,000 acres, https://eplanning.blm.gov/epl-front-office/projects/nepa/117392/20004145/250004933/PR_09.19LeaseSale_Results.pdf.
- o In December 2019, BLM sold 123 parcels totaling 123,257.56 acres, https://www.energynet.com/govt_listing.pl?sg=5172.
- o For March 2020, BLM sold 75 parcels (71,688.5 acres), https://www.energynet.com/govt_listing.pl?sg=5214.
- o In July 2020, BLM issued a Proposed Resource Management Plan Amendment and Final EIS for the Converse County Oil and Gas Project, which would authorize 5,000 new oil and gas wells.⁵⁹
- o In August 2020, BLM authorized 4,250 new wells in the Moneta Divide Production Area.⁶⁰

This argument is further supported by a look at the BLM lease sales in the area. As demonstrated by the map Section C above, the Colorado December 2020 sale is not occurring in a vacuum. Instead, it is surrounded by parcels from the Colorado, Utah, and Wyoming 2019 and 2020 lease sales. Because these sales are reasonably foreseeable and occurring in the region, BLM must analyze the cumulative climate impacts (as well as other impacts) of all of these sales together in a single, programmatic document, regardless of state lines. *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 83 (D.D.C. 2019) (“Given 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.”). *See also WildEarth Guardians v. Bernhardt*, No. 1:16-cv-01724-RC (D.D.C. Nov. 13, 2020). Climate change is not limited by state borders and the BLM’s analysis must not be either. Unfortunately, BLM’s analysis continues to exclude greenhouse gas emissions from reasonably foreseeable federal lease sales occurring in the region, including directly across the border in Wyoming. Thus, its analysis remains inadequate.

Lastly, the AR on which BLM’s EAs relied for its cumulative emissions and impact analysis fails to clearly present for the decisionmaker the total annual aggregate cumulative emissions or the total aggregate cumulative emissions. As we discussed above, BLM’s cumulative emissions analysis should have aggregated the past, present, and reasonably foreseeable GHG emissions from federal and non-federal oil and gas development in Colorado and all other oil and gas producing states. Regarding the reasonably foreseeable component, BLM should have aggregated the total expected emissions from oil and gas development, as the Utah BLM State Office has done.⁶¹ The AR and, by association, the December 2020 lease sale

⁵⁹ *See* Notice of Availability of a Proposed Resource Management Plan Amendment and Final Environmental Impact Statement for the Converse County Oil and Gas Project, Converse County, Wyoming, 85 Fed Reg. 46171 (July 31, 2020) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 63).

⁶⁰ *See* Moneta Divide Natural Gas and Oil Development Project Record of Decision, Wyoming - Wind River/Bighorn Basin District and High Plains District, Bureau of Land Management, August 2020 at 2, https://eplanning.blm.gov/public_projects/64352/200119609/20023458/250029662/MD_Record%20of%20Decision.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 64).

⁶¹ *See* Exhibit E, Supplemental Analysis for Greenhouse Gas Emissions Related to Oil and Gas Leasing in Utah, Environmental Assessment, DOI-BLM-UT-000-2021-0001-EA at 37-38, https://eplanning.blm.gov/public_projects/2002778/200390662/20027883/250034085/2020-10-08-DOI-BLM-UT-000-2021-0001-EA%20GHG-15daypubliccomment.pdf.

EAs failed to quantify the total cumulative emissions, and, as a result, BLM had no basis from which to analyze and evaluate the impacts of climate change associated with these cumulative emissions. This is a significant omission that requires BLM to postpone this lease sale unless and until BLM supplements its cumulative impacts analysis.

G. BLM’s Assessment of the Significance of the Proposed Action with regard to Climate Change is Arbitrary and Capricious.

NEPA requires BLM to assess the lease sale within the context of accurate, high quality climate science. 40 C.F.R. §§ 1500.1, 1502.24; *Lands Council v. Powell*, 395 F.3d 1019, 1031 (9th Cir. 2005) (finding that the agency’s reliance on outdated data prevented it from completing an accurate cumulative impacts analysis); *San Juan Citizens All. v. United States Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1249 (D.N.M. 2018) (holding that BLM could not rely on outdated climate data on remand). Additionally, “[e]ach time new, site specific data becomes available, and a new project is proposed, the BLM must take a hard look at it, determine its significance, and explain its decision regarding the data’s significance.” *S. Utah Wilderness All. v. United States Dep’t of the Interior*, No. 2:13-CV-01060-EJF, 2016 WL 6909036, at *6 (D. Utah Oct. 3, 2016); *see also Friends of the Clearwater v. Dombek*, 222 F.3d 552, 558 (9th Cir. 2000) (“When new information comes to light the agency must consider it, evaluate it, and make a reasoned determination whether it is of such significance as to require [supplemental environmental review.]”).

Climate change has been intensively studied and acknowledged at the global, national, and regional scales. 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.”⁶² 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 an incredibly comprehensive summary of our understanding of human-caused climate change.⁶³ Among other things, the IPCC stated:

⁶² EPA, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66,496 (Dec. 15, 2009).

⁶³ IPCC AR5, *Synthesis Report, Summary for Policymakers* (2014), http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 29).

- 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.⁶⁴
- 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.⁶⁵
- 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.⁶⁶
- 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.⁶⁷
- 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.⁶⁸
- 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
- Climate change will amplify existing risks and create new risks for natural and human systems. Risks are unevenly distributed and are generally greater for disadvantaged people and communities in countries at all levels of development.⁷⁰

⁶⁴ *Id.* at 2.

⁶⁵ *Id.*

⁶⁶ *Id.* at 4.

⁶⁷ *Id.* at 6.

⁶⁸ *Id.* at 8.

⁶⁹ *Id.* at 10.

⁷⁰ *Id.* at 13.

- Many aspects of climate change and associated impacts will continue for centuries, even if anthropogenic emissions of greenhouse gases are stopped. The risks of abrupt or irreversible changes increase as the magnitude of the warming increases.⁷¹
- There are multiple mitigation pathways that are likely to limit warming to below 2°C relative to pre-industrial levels. *These pathways would require substantial emissions reductions over the next few decades and near zero emissions of CO₂ and other long-lived greenhouse gases by the end of the century.* Implementing such reductions poses substantial technological, economic, social and institutional challenges, which increase with delays in additional mitigation and if key technologies are not available. Limiting warming to lower or higher levels involves similar challenges but on different timescales.⁷²

In fall of 2018, the IPCC issued a special report on the difference between the impacts of global warming of 1.5°C above preindustrial levels and that of 2°C above preindustrial levels.⁷³ The IPCC also included recommendations on the systems transitions needed to limit warming to 1.5°C, including a need to reduce reliance on fossil fuels by 50 to 90% depending on the temperature goal. Specifically, the IPCC found:

- Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.⁷⁴
- Warming from anthropogenic emissions from the pre-industrial period to the present will persist for centuries to millennia and will continue to cause further long-term changes in the climate system, such as sea level rise, with associated impacts but these emissions alone are unlikely to cause global warming of 1.5°C.⁷⁵
- Climate models project robust differences in regional climate characteristics between present-day and global warming of 1.5°C, and between 1.5°C and 2°C. These differences include increases in: mean temperature in most land and ocean regions, hot extremes in most inhabited regions, heavy precipitation in several regions, and the probability of drought and precipitation deficits in some regions.⁷⁶

⁷¹ *Id.* at 16.

⁷² *Id.* at 20 (emphasis added).

⁷³ IPCC Special Report 15, *Global Warming of 1.5°: Summary for Policy Makers* (2018), http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 30).

⁷⁴ *Id.* at 6.

⁷⁵ *Id.* at 7.

⁷⁶ *Id.* at 9.

- Climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C.⁷⁷
- Pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including transport and buildings), and industrial systems (high confidence). These systems transitions are *unprecedented in terms of scale*, but not necessarily in terms of speed, and *imply deep emissions reductions in all sectors*, a wide portfolio of mitigation options and a significant upscaling of investments in those options (medium confidence).⁷⁸
- CO2 emissions from industry in pathways limiting global warming to 1.5°C with no or limited overshoot are projected to be about 65-90% (interquartile range) lower in 2050 relative to 2010, as compared to 50-80% for global warming of 2°C (medium confidence).⁷⁹
- Mitigation consistent with 1.5°C pathways creates risks for sustainable development in regions with high dependency on fossil fuels for revenue and employment generation (high confidence). Policies that promote diversification of the economy and the energy sector can address the associated challenges (high confidence).⁸⁰

According to the Third National Climate Assessment,⁸¹ the Southwest Region—which includes Colorado, New Mexico, Utah, Arizona, Nevada, and California—is experiencing and will experience the following impacts:

- Snowpack and streamflow amounts are projected to decline in parts of the Southwest, decreasing surface water supply reliability for cities, agriculture, and ecosystems.⁸²
- The Southwest produces more than half of the nation’s high-value specialty crops, which are irrigation-dependent and particularly vulnerable to extremes of moisture, cold, and heat. Reduced yields from increasing temperatures and increasing competition for scarce water supplies will displace jobs in some rural communities.⁸³

⁷⁷ *Id.* at 11.

⁷⁸ *Id.* at 17 (emphasis added).

⁷⁹ *Id.*

⁸⁰ *Id.* at 23.

⁸¹ Jerry M. Melillo, *et al.*, *Climate Change Impacts in the United States: The Third National Climate Assessment* (2014), <https://nca2014.globalchange.gov/downloads> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 31).

⁸² *Id.* at 463.

⁸³ *Id.*

- Increased warming, drought, and insect outbreaks, all caused by or linked to climate change, have increased wildfires and impacts to people and ecosystems in the Southwest. Fire models project more wildfire and increased risks to communities across extensive areas.⁸⁴
- Projected regional temperature increases, combined with the way cities amplify heat, will pose increased threats and costs to public health in southwestern cities, which are home to more than 90% of the region’s population. Disruptions to urban electricity and water supplies will exacerbate these health problems.⁸⁵

The Fourth National Climate Assessment, released in two volumes in 2017⁸⁶ and 2018,⁸⁷ provides significant updates on the science and impacts of climate change across the U.S. Volume I, released in 2017, focuses on the physical science of climate change. Volume II, released in 2018, focuses on the impacts, risks, and adaptations occurring as a result of climate change. The latter report reaffirms that “the continued warming that is projected to occur without significant reductions in global greenhouse gas emissions is expected to cause substantial net damage to the U.S. economy.”⁸⁸ The report also details that without “more immediate and substantial global greenhouse gas reductions,” the most severe consequences of climate change will not be avoided in the long-term.⁸⁹ In comparison to past reports, the section on the Southwest “further examines interconnections among water, ecosystems, the coast, food, and human health and adds new Key Messages concerning energy and Indigenous peoples.”⁹⁰

NCA4 Volume II examines the current impacts of climate change on the Southwest in detail. It notes that the average annual temperature of the Southwest increased *1.6°F between 1901 to 2016*, magnifying the impacts of drought and wildfire.⁹¹ Hotter temperatures have already contributed to reductions in snowpack, amplifying drought conditions in the Colorado River Basin, the Rio Grande, and other critical watersheds.⁹² It is also estimated that the area

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ U.S. Global Change Research Program, *Climate Science Special Report, Fourth National Climate Assessment, Volume I* (D.J. Wuebbles et al. eds. 2017), <https://science2017.globalchange.gov/> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 32).

⁸⁷ U.S. Global Change Research Program, *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* (Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart eds., 2018) (hereinafter “NCA4 Vol. II”), https://nca2018.globalchange.gov/downloads/NCA4_2018_FullReport.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 33).

⁸⁸ *Id.* at 46.

⁸⁹ *Id.* at 27.

⁹⁰ *Id.* at 1110.

⁹¹ *Id.* at 1108.

⁹² *Id.* at 1104, 1111.

burned by wildfire across the western United States between 1984 and 2015 was twice what would have burned had climate change not occurred.⁹³ “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.”⁹⁴ In particular, the report notes that tribal water supplies are at risk due to reductions in water supply reliability and water contracts in place.⁹⁵

Future projections for the region from NCA4 Volume II are even more alarming. “Under the higher scenario (RCP8.5), climate models project an 8.6°F (4.8°C) increase in Southwest regional annual average temperature by 2100.”⁹⁶ Climate change threatens to lead to “to aridification (a potentially permanent change to a drier environment) in much of the Southwest, through increased evapotranspiration, lower soil moisture, reduced snow cover, earlier and slower snowmelt, and changes in the timing and efficiency of snowmelt and runoff.”⁹⁷ “Any increase in water requirements for energy generation from fossil fuels would coincide with reduced water supply reliability from projected decreases in snowpack, and earlier snowmelt.”⁹⁸ In particular, “[t]he water consumption, pollution, and greenhouse gas emissions of hydraulic fracturing (fracking) make that source of fuel even less adaptive under climate change.”⁹⁹

Although BLM includes some of this information in its 2019 Annual Report (incorporated by reference in the EA), even admitting that emissions need to decline within the next ten years in order to meet global emissions goals and that emissions have, in fact, increased instead, BLM fails to actually consider the significance of the proposed action within the context of these dire warnings. Rather, BLM buries its head in the sand and continues leasing oil and gas parcels which will undoubtedly add to the global climate crisis.

i. Social Cost of Carbon.

Because BLM fails to properly assess significance in other ways (e.g. through a comparison of alternatives reducing development), BLM’s failure in the EA to use the social cost of carbon violates NEPA’s hard look mandate. 40 C.F.R. §§ 1500.1(b), 1502.24; *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 79, n.31 (D.D.C. 2019) (“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.”).

⁹³ *Id.*

⁹⁴ *Id.* at 1109.

⁹⁵ *Id.* at 1110.

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.* at 1124.

⁹⁹ *Id.*

NEPA does not, of course, require agencies to monetize adverse impacts in all cases. *See* 40 C.F.R. § 1502.23. NEPA does, however, require BLM to take a hard look at the “ecological . . . , aesthetic, historic, cultural, economic, social, [and] health,” effects of its actions, “whether direct, indirect, or cumulative.” 40 C.F.R. § 1508.8. 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), or the agency presents a misleading analysis assessing the economic benefits of the project without a counterbalanced discussion of economic costs, *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp. 3d 1174, 1193 (D. Colo. 2014).

The social cost of carbon protocol is a valid, well-accepted, credible, and interagency-endorsed method of calculating the costs of greenhouse gas emissions and understanding the potential significance of such emissions. Through the protocol, agencies “estimate the economic damages associated with a small increase in carbon dioxide (CO₂) emissions, conventionally one metric ton, in a given year [which] represents the value of damages avoided for a small emission reduction (i.e. the benefit of a CO₂ reduction).”¹⁰⁰ The protocol was developed by an interagency working group (“IWG”) consisting of several federal agencies.¹⁰¹

In 2009, an Interagency Working Group was formed to develop the protocol and issued final estimates of carbon costs in 2010.¹⁰² These estimates were then revised in 2013 by the Interagency Working Group, which at the time consisted of 13 agencies.¹⁰³ This report and the

¹⁰⁰ U.S. Environmental Protection Agency (“EPA”), “Fact Sheet: Social Cost of Carbon” (Nov. 2013) at 1, formerly available online at <https://www.epa.gov/climatechange/social-cost-carbon> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 42).

¹⁰¹ Although Executive Order 13,783 disbanded the Interagency Working Group, the entity which developed the social cost of carbon protocol, and withdrew the technical support documents discussed below, the protocol is still “generally accepted in the scientific community.” 40 C.F.R. § 1052.22(b)(4); Katharine Ricke et. al, Country-Level Social Cost of Carbon, *Nature Climate Change*, Vol. 8, 895 (2018), <https://www.nature.com/articles/s41558-018-0282-y> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 43). Indeed, the Trump Administration still uses the SCC protocol despite drastically reducing the damages caused by carbon emissions. *See* Brad Plumer, Trump Put a Low Cost of Carbon Emissions. Here’s Why It Matters, *New York Times*, Aug. 23, 2018, <https://www.nytimes.com/2018/08/23/climate/social-cost-carbon.html> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 44).

¹⁰² *See* Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (Feb. 2010), https://www.epa.gov/sites/production/files/2016-12/documents/scc_tsd_2010.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 44.5).

¹⁰³ *See* Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (May 2013), <https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/inforeg/technical-update-social-cost-of-carbon-for-regulator-impact-analysis.pdf> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 45).

social cost of carbon estimates were again revised in 2015.¹⁰⁴ Again, this report and social cost of carbon estimates were revised in 2016.¹⁰⁵

Most recently, as an addendum to previous Technical Support Documents regarding the social cost of carbon, the Department of the Interior joined numerous other agencies in preparing estimates of the social cost of methane and other greenhouse gases.¹⁰⁶

Depending on the discount rate and the year during which the carbon emissions are produced, the Interagency Working Group estimates the cost of carbon emissions, and therefore the benefits of reducing carbon emissions, to range from \$10 to \$212 per metric ton of carbon dioxide. *See* Chart Below. In one of its more recent updates to the Social Cost of Carbon Technical Support Document, the White House’s central estimate was reported to be \$36 per metric ton.¹⁰⁷

In July 2014, the U.S. Government Accountability Office (“GAO”) confirmed that the Interagency Working Group’s estimates were based on sound procedures and methodology.¹⁰⁸

¹⁰⁴ *See* Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (July 2015) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 46).

¹⁰⁵ *See* Interagency Working Group on Social Cost of Greenhouse Gases, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866” (Aug. 2016), https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 47).

¹⁰⁶ *See* Interagency Working Group on Social Cost of Greenhouse Gases, United States Government, “Addendum to Technical Support Document on Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866: Application of the Methodology to Estimate the Social Cost of Methane and the Social Cost of Nitrous Oxide” (Aug. 2016) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 48).

¹⁰⁷ *Id.* at 4.

¹⁰⁸ *See* GAO, “Regulatory Impact Analysis, Development of Social Cost of Carbon Estimates,” GAO-14-663 (July 2014), <http://www.gao.gov/assets/670/665016.pdf> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 49).

Year	5% Average	3% Average	2.5% Average	High Impact (95 th Pct at 3%)
2010	10	31	50	86
2015	11	36	56	105
2020	12	42	62	123
2025	14	46	68	138
2030	16	50	73	152
2035	18	55	78	168
2040	21	60	84	183
2045	23	64	89	197
2050	26	69	95	212

Most recent social cost of carbon estimates presented by Interagency Working Group on Social Cost of Carbon. The 95th percentile value is meant to represent “higher-than-expected” impacts from climate change.

Although often utilized in the context of agency rulemakings, the protocol has been recommended for use and has been used in project-level decisions. For instance, the EPA recommended that an EIS prepared by the U.S. Department of State for the proposed Keystone XL oil pipeline include “an estimate of the ‘social cost of carbon’ associated with potential increases of GHG emissions.”¹⁰⁹

More importantly, BLM’s Billings Field Office, has also utilized the social cost of carbon protocol in the context of oil and gas approvals. For example, the Billings Field Office estimated “the annual SCC [social cost of carbon] associated with potential development on lease sale parcels.”¹¹⁰ In conducting its analysis, the BLM used a “3 percent average discount rate and year 2020 values,” presuming social costs of carbon to be \$46 per metric ton.¹¹¹ Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be “\$38,499 (in 2011 dollars).”¹¹² In Idaho, the BLM also utilized the social cost of carbon protocol to analyze and assess the costs of oil and gas leasing. Using a 3% average discount rate and year 2020 values, the agency estimated the cost of carbon to be \$51 per ton of annual CO₂e increase.¹¹³ Based on

¹⁰⁹ EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 50).

¹¹⁰ BLM, “Environmental Assessment for October 21, 2014 Oil and Gas Lease Sale,” DOI-BLM-MT-0010-2014-0011-EA (May 19, 2014) at 76, https://blm_prod.opengov.ibmcloud.com/sites/blm.gov/files/MT-DAKS%20Billings%20Oct%202014%20EA%20P%20rotest.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 51).

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ See BLM, “Little Willow Creek Protective Oil and Gas Leasing,” EA No. DOI-BLM-ID-B010-2014-0036-EA 81 (February 10, 2015), https://eplanning.blm.gov/epl-front-office/projects/nepa/39064/55133/59825/DOI-BLM-ID-B010-2014-0036-EA_U%20PDATED_02272015.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 52).

this estimate, the agency estimated that the total carbon cost of developing 25 wells on five lease parcels to be \$3,689,442 annually.¹¹⁴

To be certain, the social cost of carbon protocol presents a conservative estimate of economic damages associated with the environmental impacts of climate change. As the EPA has noted, the protocol “does not currently include all important [climate change] damages.”¹¹⁵ As explained:

The models used to develop [social cost of carbon] estimates do not currently include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature because of a lack of precise information on the nature of damages and because the science incorporated into these models naturally lags behind the most recent research.

Id. In fact, more recent studies have reported significantly higher carbon costs. For instance, a report published in 2015 found that current estimates for the social cost of carbon should be increased six times for a mid-range value of \$220 per ton.¹¹⁶ And a report from 2017, estimated carbon costs to be \$50 per metric ton, a value that experts have found to be the “best estimate of the social cost of greenhouse gases.”¹¹⁷ In spite of uncertainty and likely underestimation of carbon costs, nevertheless, “the SCC is a useful measure to assess the benefits of CO₂ reductions,” and thus a useful measure to assess the costs of CO₂ increases.¹¹⁸

That the economic impacts of climate change, as reflected by an assessment of social cost of carbon, should be a significant consideration in agency decision making, is emphasized by a 2014 White House report, which warned that delaying carbon reductions would yield significant economic costs.¹¹⁹ As the report states:

[D]elaying action to limit the effects of climate change is costly. Because CO₂ accumulates in the atmosphere, delaying action increases CO₂ concentrations. Thus, if a policy delay leads to higher ultimate CO₂ concentrations, that delay produces persistent economic damages that arise from higher temperatures and higher CO₂ concentrations. Alternatively, if a delayed policy still aims to hit a given climate target, such as limiting CO₂ concentration to a given level, then that delay means that the policy, when

¹¹⁴ *Id.* at 83.

¹¹⁵ EPA Factsheet on SCC, *supra*, at 1.

¹¹⁶ See Moore, C.F. and Diaz, D.B., “Temperature impacts on economic growth warrant stringent mitigation policy,” *Nature Climate Change* 2 (Jan. 12, 2015) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 53).

¹¹⁷ See Revesz, R. et al. “Best cost estimate of greenhouse gases,” 357 *Science* 655, 655 (Aug. 18, 2017) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 54).

¹¹⁸ EPA Factsheet on SCC, *supra*.

¹¹⁹ See Executive Office of the President of the United States, “The Cost of Delaying Action to Stem Climate Change,” (July 2014) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 55).

implemented, must be more stringent and thus more costly in subsequent years. In either case, delay is costly.¹²⁰

The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA and is specifically supported in federal case law. Courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the U.S. Court of Appeals for the Ninth Circuit ordered the National Highway Traffic Safety Administration to include a monetized benefit for carbon emissions reductions in an Environmental Assessment prepared under NEPA. *Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1203 (9th Cir. 2008). The Highway Traffic Safety Administration had proposed a rule setting corporate average fuel economy standards for light trucks. A number of states and public interest groups challenged the rule for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions. The Administration had monetized the employment and sales impacts of the proposed action. *Id.* at 1199. The agency argued, however, that valuing the costs of carbon emissions was too uncertain. *Id.* at 1200. The court found this argument to be arbitrary and capricious. *Id.* The court noted that while estimates of the value of carbon emissions reductions occupied a wide range of values, the correct value was certainly not zero. *Id.* It further noted that other benefits, while also uncertain, were monetized by the agency. *Id.* at 1202.

In 2014, a federal court did likewise for a federally-approved coal lease. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. *See High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp. 3d 1174, 1193 (D. Colo. 2014) (citing 40 C.F.R. § 1502.23). However, when an agency prepares a cost-benefit analysis, “it cannot be misleading.” *Id.* at 1182 (citations omitted). In that case, the NEPA analysis included a quantification of benefits of the project, but, the quantification of the social cost of carbon, although included in earlier analyses, was omitted in the final NEPA analysis. *Id.* at 1196. The agencies then relied on the stated benefits of the project to justify project approval. This, the court explained, was arbitrary and capricious. *Id.* Such approval was based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country. *Id.* Furthermore, the court reasoned that even if the agency had decided that the social cost of carbon was irrelevant, the agency must still provide “*justifiable reasons* for not using (or assigning minimal weight to) the social cost of carbon protocol” *Id.* at 1193 (emphasis added). In August 2017, a federal district court in Montana cited to the *High Country* decision and reaffirmed its reasoning, rejecting a NEPA analysis for a coal mine expansion that touted the economic benefits of the expansion without assessing the carbon costs that would result from the development. *See Mont. Env'tl. Info. Ctr. v. U.S. Office of Surface Mining*, No. CV 15-106-M-DWM (D. Mont. Aug. 14, 2017).

A 2015 op-ed in the New York Times from Michael Greenstone, the former chief economist for the President’s Council of Economic Advisers, confirms that it is appropriate and acceptable to calculate the social cost of carbon when reviewing whether to approve fossil fuel

¹²⁰ *Id.* at 1.

extraction.¹²¹ In 2017, the Proceedings of the National Academy of Sciences of the United States of America (“PNAS”), acknowledged in a peer-reviewed article from February of this year that the social cost of carbon analysis is “[t]he most important single economic concept in the economics of climate change,” and that “federal regulations with estimated benefits of over \$1 trillion have used the SCC.”¹²² The National Research Council has explained why putting a price on carbon is important:

The need to “put a price on carbon” arises from the fact that a market economy--if it is to work--has no way of dealing with essential commodities in the absence of a price signal to consumers. That is what a market economy is for--prices inform choices. The information content of prices refers to the completeness and hence the correctness of market prices. Prices cannot provide appropriate signals to consumers if those prices do not convey information about the economic process to which those prices pertain...if the full social costs of congestion delays, air pollution, and greenhouse gas emissions were correctly accounted for in the price of gasoline, consumers would almost certainly make different choices about automobile use. A price premium on energy reflecting the carbon content of petroleum products would help reflect these costs and would, as a result, convey more correct market signals to consumers.¹²³

BLM provides several explanations for why it chose not to analyze the potential emissions from the December lease sale according to the social cost of carbon, but none is sufficient. BLM argues that it does not have to use the social cost of carbon because its lease sale is not a rulemaking, the Interagency Working Group guidance has been withdrawn, and NEPA does not require cost-benefit analysis. These are not valid grounds for refusing to use the best available metric for assessing the costs of marginal greenhouse gas emissions. *E.g. High Country Conservation Advocates*, 52 F. Supp. 3d 1174, 1182 (D. Colo. 2014).¹²⁴ Environmental Defense Fund and others have comprehensively detailed the scientific and economic robustness of the social cost of carbon while refuting BLM’s various excuses for not using the social cost of carbon--that analysis and refutation is fully incorporated here by reference.¹²⁵ BLM also argues that quantifying the costs of greenhouse gas emissions but not the benefits would yield information that is inaccurate and not useful to the decision maker¹²⁶—but the EAs did just this by detailing the revenue that would be generated by the lease sales and royalties. Here, the Royal Gorge EA and the underlying RMP includes information regarding the economic benefits of the

¹²¹ See Greenstone, M., “There’s a Formula for Deciding When to Extract Fossil Fuels,” *New York Times* (Dec. 1, 2015), <https://www.nytimes.com/2015/12/02/upshot/theres-a-formula-for-deciding-when-to-extract-fossil-fuels.html> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 56).

¹²² William D. Nordhaus, *Revisiting the Social Cost of Carbon*, PNAS, Feb. 14, 2017, <http://www.pnas.org/content/114/7/1518.full.pdf> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 57).

¹²³ Exhibit F, National Research Council 2010. *Informing an Effective Response to Climate Change*. Washington, DC: The National Academies Press at 211, <https://doi.org/10.17226/12784>.

¹²⁴ See also EDF et al., *Comments on Lila Canyon Mine at 12* (June 8, 2020) (describing break even analysis) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 62).

¹²⁵ *Id.* at 1-34.

¹²⁶ Even in the absence of a cost-benefit analysis, monetizing costs can still be valuable; see Exhibit 62 at 14-15.

lease sale. For example, BLM discusses the economic value of the oil and gas industry in Eastern Colorado in detail. RGFO EA at 30-31; LS/K EA at 47-48. Having done this, BLM is obliged to monetize the environmental costs, per 42 U.S.C. § 4332(2)(B).

The relevant RMPs for the Little Snake/Kremmling parcels also include extensive discussions about the monetary benefits of oil and gas leasing. *See* Little Snake Proposed RMP and FEIS at 3-136 to 3-138; Kremmling RMP/EIS, 3-236 to 3-255. BLM must, at a minimum, address why the protocol is not useful in light of this misleading information.

In sum, the social cost of carbon provides a useful, valid, and meaningful tool for assessing the climate consequences of the proposed leasing, and the BLM must discuss it in revised versions of these EAs.

ii. Carbon Budgets

Carbon budgeting is another valuable tool for assessing the significance of GHG emissions in the context of the climate crisis. A “carbon budget” offers a cap on the remaining stock of greenhouse gases that can be emitted while still keeping global average temperature rise below scientifically-based warming thresholds beyond which climate change impacts are highly likely to result in severe and irreparable harm to the biosphere and humanity. Carbon budgeting gets closer to the question of climate impacts, as opposed to comparing incremental project emissions to static annual emissions, because it is adjusted based on current day emission levels and remaining budgets for both the world and the U.S. Here, because BLM fails to assess significance in other ways, BLM must specifically assess whether other methodologies for quantifying climate change, such as carbon budgeting, would contribute to informed decisionmaking. *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 79 n.31 (D.D.C. 2019). Simply providing GHG emissions in the abstract, or comparing lease sale emissions to regional and national totals, fails to inform the decision-maker and the public of the *significance* of the *impacts*.

The science of carbon budgeting is not new. Starting in 2014, the IPCC calculated world carbon budgets and concluded that the only way to meet these budgets was to ratchet down fossil fuels. Specifically, the IPCC, in its 2014 AR5 Synthesis Report, found that carbon emissions from burning *existing* fossil fuel reserves—the known belowground stock of extractable fossil fuels—would considerably exceed both 2°C and 1.5°C of warming.¹²⁷ “Estimated total fossil carbon reserves exceed this remaining [world carbon budget] by a factor of 4 to 7.”¹²⁸ In raw magnitude, global coal, oil and gas resources considered currently economically recoverable

¹²⁷ IPCC 2014 AR5 Synthesis Report, *supra*, at 63.

¹²⁸ *Id.*

contain potential greenhouse gas emissions of 4,196 GtCO₂,¹²⁹ with the IPCC indicating they are as high as 7,120 GtCO₂.¹³⁰

These findings are echoed by other research. To constrain warming within the 2°C guardrail, a 2015 study published in *Nature* found that “a third of oil reserves, half of gas reserves and over 80 percent of current coal reserves should remain unused from 2010-2050.”¹³¹ And, in a 2016 analysis, Oil Change International found that burning the oil, gas, and coal in the world’s *currently operating* fields and mines would fully exhaust and exceed carbon budgets calibrated to constrain warming below 1.5°C or 2°C.¹³² Moreover, Oil Change International found that burning the reserves in currently operating oil and gas fields, excluding coal mines, would alone lead to warming beyond 1.5°C.¹³³ Put simply, regardless of what IPCC carbon budget calculations are used, *most* of the existing oil and gas fields and coal mines will need to be closed before their reserves are fully extracted in order to limit warming to 1.5°C and that some existing fields and mines will need to be closed to limit warming to 2°C.¹³⁴

More recently, the IPCC’s 2018 *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.¹³⁵ The IPCC also found that compared with the average global emissions rate of 36 GtCO₂ per year for 2012-2014, the global emissions rate had increased to 42 GtCO₂ per year.¹³⁶ 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.¹³⁷ In fact, according to the U.S. Global Change Research Program, we may have *already* burned through the world’s entire carbon budget needed to limit average warming to 1.5°C.¹³⁸

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

¹²⁹ Michael Raupach, *et al.*, *Sharing a Quota on Cumulative Carbon Emissions*, 4 *Nature Climate Change* 873, 875 (2014) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 34).

¹³⁰ IPCC, AR5, *Climate Change 2014: Mitigation of Climate Change* at Table 7.2, https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_full.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 35).

¹³¹ Christopher McGlade & Paul Ekins, *The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2°C*, 517 *Nature* 187 (2015) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 36).

¹³² Greg Muttitt, *et al.*, Oil Change International, *The Sky’s Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production* 6 (2016) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 37).

¹³³ *Id.*

¹³⁴ *Id.* at 5, 7.

¹³⁵ IPCC, *Global Warming of 1.5°C, Summary for Policymakers*, *supra*, at SPM-16.

¹³⁶ *Id.*

¹³⁷ *Id.*

¹³⁸ NCA4 Vol. I, at 396-97.

away from fossil fuels. BLM must acknowledge that the potential wells from this lease sale, as well as the remainder of the 3,200 wells projected in the RFDS, will continue generating GHG emissions long after the world's carbon budget has been exhausted. The agency must further assess the implications and impacts of its decisions to knowingly permit expansion of fossil fuel development and GHG emissions directly incompatible with meeting global carbon reduction targets.

To put these global carbon budgets in the specific context of domestic U.S. emissions and the U.S.'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 1870, and is currently the world's second highest emitter on an annual and per capita basis.¹³⁹ To conform to a 1.5°C target, the estimated U.S. carbon budget is 25 GtCO₂eq to 57 GtCO₂eq on average,¹⁴⁰ depending on the sharing principles used to apportion the global budget across countries.¹⁴¹ The estimated U.S. carbon budget consistent with limiting temperature rise to 2°C ranges from 34 GtCO₂ to 123 GtCO₂,¹⁴² 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.

Federal fossil fuels are a significant contributor to global emissions and could significantly reduce the U.S.'s remaining carbon budget. Between 2003 and 2014, approximately 25% of all United States and 3-4% of global fossil fuel GHGs are attributable to federal minerals leased and developed by the Department of the Interior.¹⁴³ The United States Geological Survey reaffirmed this in its 2018 report which found that federal fossil fuel production currently

¹³⁹ Global Carbon Project, Global Carbon Budget 2019, https://www.globalcarbonproject.org/carbonbudget/19/files/GCP_CarbonBudget_2019.pdf (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 38).

¹⁴⁰ 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) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 39). Quantities measured in GtCO₂eq include the mass emissions from CO₂ as well as the other well-mixed greenhouse gases (CO₂, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and SF₆) converted into CO₂-equivalent values, while quantities measured in GtCO₂ refer to mass emissions of just CO₂ itself.

¹⁴¹ 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 GtCO₂eq by averaging across four equity principles: capability (83 GtCO₂eq), equal per capita (118 GtCO₂eq), greenhouse development rights (-69 GtCO₂eq), and equal cumulative per capita (-32 GtCO₂eq). The study estimated the U.S. budget at 57 GtCO₂eq when averaging across five sharing principles, adding the constant emissions ratio (186 GtCO₂eq) 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."

¹⁴² 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 GtCO₂eq based on four equity principles (capability, equal per capita, greenhouse development rights, equal cumulative per capita), and at 104 GtCO₂eq based on five principles (adding in constant emissions ratio, but see footnote above).

¹⁴³ Energy Information Administration ("EIA"), *Sales of Fossil Fuels Produced from Federal and Indian Lands, FY 2003 through FY 2014* (July 2015), <https://www.eia.gov/analysis/requests/federallands/pdf/eia-federallandsales.pdf> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 40).

contributes to 23% of all U.S. greenhouse gas emissions.¹⁴⁴ According to a 2015 report, leased federal fossil fuels could unleash between 30 to 43 Gt of CO₂e—an amount equivalent to the U.S. carbon budget under some sharing scenarios.¹⁴⁵ Unleased federal fossil fuels could emit 319 to 450 Gt of CO₂e—easily obliterating the U.S.’s entire carbon budget.¹⁴⁶ Either way, any expansion of oil and gas development on federal public lands is entirely incompatible with progress toward addressing the climate crisis.

But, rather than ratcheting down oil and gas, the U.S. is on a path to rapidly expand it with the federal government playing a key role. Oil Change International recently found that use of existing fossil fuel reserves would again push the world far beyond warming or 1.5°C and 2°C and that the U.S. is on track to release a carbon bomb of emissions from oil and gas development in the next 30 years.¹⁴⁷ The report specifically 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 (CO₂) emissions should be roughly halved to stay in line with the 1.5°C target in the Paris Agreement.¹⁴⁸
- 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.¹⁴⁹
- 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 2050.¹⁵⁰

Simply, BLM’s push to unleash more greenhouse gas emissions from oil and gas development is extremely irresponsible and is significantly contributing to the world’s climate crisis. BLM must, at a minimum, assess the significance of the proposed lease parcels within the

¹⁴⁴ Merrill, M.D., et al., *supra*, at 1.

¹⁴⁵ EcoShift, The Potential Greenhouse Gas Emission from U.S. Federal Fossil Fuels, *supra*, at 1, 3.

¹⁴⁶ *Id.*

¹⁴⁷ Kelly Trout & Lorne Stockman, Oil Change International, *Drilling Toward Disaster: Why U.S Oil & Gas Expansion is Incompatible with Climate Limits*, 1, 6 (Jan. 2019), <http://priceofoil.org/content/uploads/2019/01/Drilling-Towards-Disaster-Web-v3.pdf> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 41).

¹⁴⁸ *Id.* at 6.

¹⁴⁹ *Id.*

¹⁵⁰ *Id.*

context of carbon emissions that stand to be released from already leased federal fossil fuels and seriously consider not leasing the proposed parcels in order to do its part to reduce emissions.

BLM's attempt to assess the significance of direct, indirect, and cumulative greenhouse gas emissions, by comparing the potential emissions from the lease sale to cumulative federal and national oil and gas emissions, is an unreasonable and arbitrary assessment of significance. BLM recognizes that climate change is a cumulative problem,¹⁵¹ and yet BLM's significance threshold for emissions presupposes emissions are significant if and only if they are likely to have an effect at global scale. This is an arbitrary significance threshold because it bears no relation to the nature of the cause and impacts of climate change. As we discussed above, there are a number of methods and tools for evaluating the significance of greenhouse gas emissions including carbons budgets and the social cost of carbon.

Another method we requested BLM use to assess the significance of the greenhouse gas emissions associated with the fourth quarter lease sale involved comparing this lease sale similarly-sized projects, which would help further contextualize and assess potential emissions associated with the sale, as the CEQ has directed.¹⁵²

Our September 14, 2020 comments also requested BLM assess the significance of the potential emissions from the December lease sale by evaluating the emissions in the context of the State of Colorado's House Bill 19-1261, which was passed into law in May 2019. HB 19-1261 requires the State of Colorado to reduce carbon emissions by 26% by 2025, by 50% by 2030, and by 90% by 2050, compared to 2005 levels. Carbon emissions associated with BLM authorized oil and gas development were not exempted from the reduction requirements in this law.

Despite our requests, BLM continues to improperly use projected GHG emissions from the proposed lease sale as a proxy for the impacts of climate change. As we and others have suggested, simply calculating total GHG emissions from the proposed lease sale only measures the "flow" of GHG emissions and fails to contextualize the impacts of the emissions according to

¹⁵¹ See Annual Report 2.0, 2019 Report Year, Bureau of Land Management, Section 6, <https://annualreport20.noobiest.repl.co/>; see also Annual Report, 2015 Report Year, <https://www.co.blm.gov/nepa/airreports/AR2015.html#>.

¹⁵² CEQ, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews 1, 11 (2016) (explaining that "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. . . . [T]his 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. . . . [W]hen considering GHG emissions and the significance, agencies should use appropriate tools and methodologies for quantifying GHG emissions and comparing GHG quantities across alternative scenarios. Agencies should not limit themselves to calculating a proposed action's emissions as a percentage of section, nationwide, or global emissions[.]" (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 26). Although the Trump Administration has since revoked the CEQ's August 2016 Climate Guidance and the BLM revoked IM No. 2017-003 on October 24, 2017, BLM is still bound by the CEQ's NEPA regulations and existing case law to this effect. See, e.g., *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017).

the “stock” of emissions currently in the atmosphere or according to the remaining GHG emissions budget necessary to avoid harmful warming.

BLM’s significance assessment should have included an evaluation of Colorado’s greenhouse gas emissions in total and according to the following sectors: transportation, electric power, buildings, oil and gas, agriculture, coal mining, industrial processes, and waste management.¹⁵³ The assessment should also have compared these emissions to current and expected greenhouse gas emissions associated with BLM actions in Colorado in total, as proposed in the December lease sale, and according to source, including: oil, gas, and coal. Here, too, BLM failed to directly address the requests we made in our comments or adjust the EAs accordingly. We stand by these requests because as BLM’s EAs stand, they fail to properly account for and evaluate the impacts of climate change associated with the December 2020 lease sale.

H. BLM Must Analyze Significant New Information Concerning the Health Impacts of Airborne Radioactivity Associated with Unconventional Oil and Gas Development.

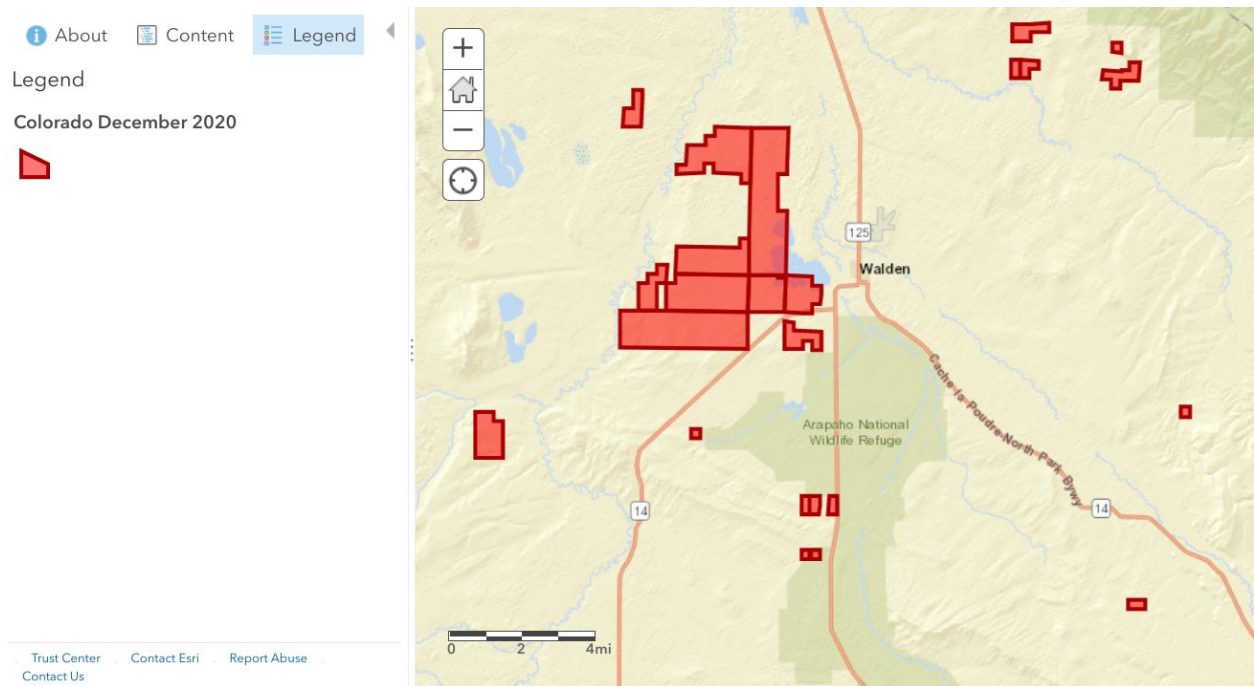
Significant new information concerning the impacts of airborne radiation from fracking requires that BLM more thoroughly analyze the impacts of hydraulic fracturing in an EIS. This year researchers from Harvard’s School of Public Health published a new study in *Nature Communications* that found that the radioactivity of airborne particles increases significantly downwind of fracking sites in the United States.¹⁵⁴ These researchers conducted the study by using data collected from 157 radiation-monitoring stations across the U.S., which were built during the cold war in response to the nuclear threat. Specifically, the scientists looked at data from these stations collected between 2001 and 2017 and compared it with the position and production records of 120,000 fracking wells. Analysis of this data shows that airborne radioactivity, particularly in areas within 20km of large fracking sites, is greater as compared with background levels.¹⁵⁵ This suggests that large scale unconventional oil and gas development may be causing adverse health impacts in nearby communities.

Given the scale of oil and gas development in Colorado and the number of existing and reasonably foreseeable wells, the proposed action may present a serious risk to the public health of rural and urban communities throughout Wyoming. As such, BLM must analyze this significant new information to determine whether the projected oil and gas development of the December 2020 lease sale, in conjunction with existing and reasonably foreseeable oil and gas development, may significantly impact public health in nearby communities in Colorado, including communities in which BLM staff live and work. The map data below provides examples, showing different communities in Colorado that fall within the range of potentially higher airborne radioactivity merely from potential oil and gas development analyzed in the EA, let alone existing and other proposed oil and gas development.

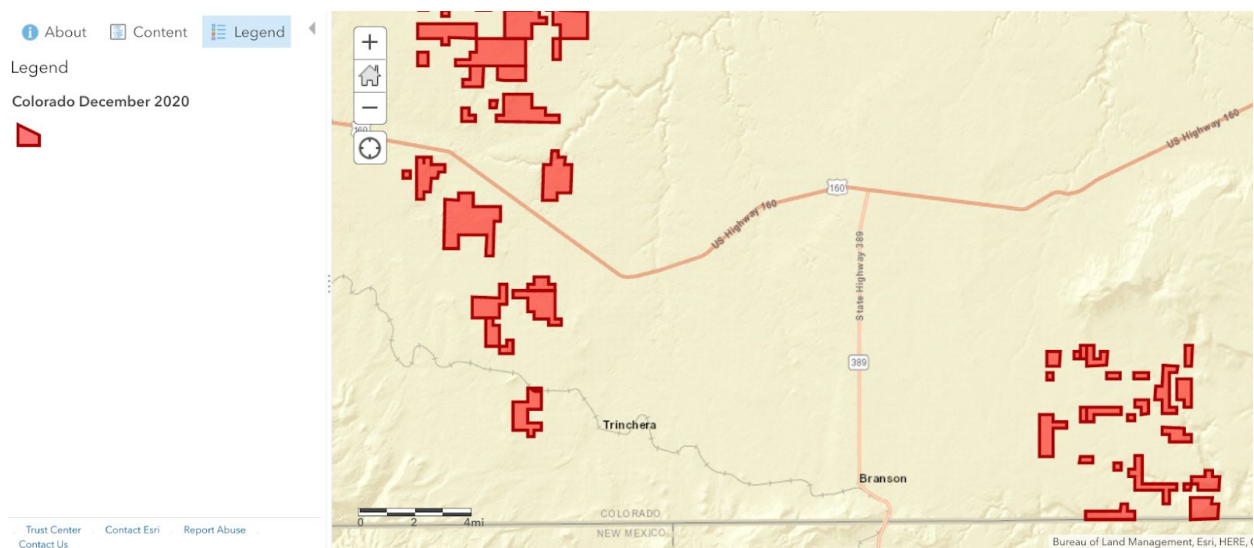
¹⁵³ See Colorado 2015 Greenhouse Gas Inventory Update Including Projections to 2020 & 2030, December 2019, <https://drive.google.com/file/d/1TxyoktxCOLFd6CaUKZzeqsKgEIHmJdqt/view> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 65).

¹⁵⁴ Exhibit G, Li, L., Blomberg, A.J., Spengler, J.D. *et al.* Unconventional oil and gas development and ambient particle radioactivity. *Nat Commun* 11, 5002 (2020) <https://doi.org/10.1038/s41467-020-18226-w>.

¹⁵⁵ See *id.*



Map of December 2020 lease parcels (in red) surrounding the city of Walden, CO.



Map of December lease parcels (in red) around the cities of Trinchera and Branson, CO.

I. BLM Has Failed to Take a Hard Look at Impacts to Greater Sage-Grouse in Violation of NEPA and FLPMA

Despite the substantial overlap between the proposed lease sale and Priority and General Habitats for Greater Sage-Grouse, LS/K EA at 54, BLM argues that “[t]he Proposed Action would incrementally add to the overall leased acres in both the North Park and Northwest

Colorado (NWCO) populations . . . [but] would be lessened within PHMA and parts of GHMA through application of the No Surface Occupancy Stipulations.”¹⁵⁶ The BLM’s failure to consider site-specific impacts to greater sage-grouse, including impacts to the North Park population, violates both NEPA’s requirement to take a hard look at environmental impacts, as well as the express terms of the 2015 Colorado Sage-Grouse ARMPA. As BLM notes, proposed Alternatives B and C would “create disturbances and new disruptive locations, contributing toward both the 3% disturbance cap and 1/640-acre density cap” established in the governing 2015 Sage-Grouse RMP Amendments.¹⁵⁷ The unfounded assumption that development would occur only on pre-existing locations is wholly unfounded. Prior to leasing, BLM must engage in full consideration of the indirect and cumulative effects to the North Park and Northwest Colorado sage-grouse populations.

According to BLM documents currently posted on ePlanning and Colorado Parks and Wildlife data, following deferrals, the proposed lease sale contains 11,156 acres of Priority Habitat Management Areas and 2,738 acres of General Habitat Management Areas (“PHMA” and “GHMA”).¹⁵⁸ The vast majority of these parcels are within the at-risk and isolated North Park population area. The proposed leases would, if granted, increase the amount of leased PHMA and GHMA respectively within the North Park management zone from 20.7% and 15.0% to 25.4% and 17.5%, substantially reducing the intact and unleased habitat remaining for the North Park Population.¹⁵⁹ This problem is compounded by BLM’s cumulative pattern of leasing large areas of remaining Colorado sage-grouse habitat in other recent leases sales, including nearly 80,000 acres in the recent September 2019 lease sale. The BLM failed to respond substantively to comments about the cumulative impacts of these multiple lease sales. Leasable Fluid Minerals Objective MR-1 of the 2015 currently-operative Northwest Colorado sage-grouse ARMPA requires that BLM prioritize leasing outside of greater sage-grouse habitat.¹⁶⁰ Clearly, that has not been done here.

In 2019, BLM attempted to amend the 2015 Northwest Colorado Sage-Grouse ARMPA to, among other things, remove a restriction on leasing within one mile of sage-grouse leks. In October 2019, however, the U.S. District Court for the District of Wyoming granted a motion for a preliminary injunction against the BLM’s 2019 sage-grouse plan amendments, ordering:

The plaintiffs have satisfied all the elements for injunctive relief, and the Court will therefore grant their motion for a preliminary injunction. The BLM is enjoined from implementing the 2019 BLM Sage-Grouse Plan Amendments for Idaho, Wyoming, Colorado, Utah, Nevada/Northeastern California, and Oregon,

¹⁵⁶ Final December 2020 Leasing EA at 54

¹⁵⁷ EA at 52.

¹⁵⁸ EA at 52.

¹⁵⁹ EA at 54.

¹⁶⁰ “Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside PHMA and GHMA. When analyzing leasing and authorizing development of fluid mineral resources, including geothermal, in PHMA and GHMA, and subject to applicable stipulations for the conservation of GRSG, priority will be given to development in non-habitat areas first and then in the least suitable habitat for GRSG.” Northwest Colorado Greater Sage-Grouse Approved RMPA Record of Decision at 2-14. Unlike certain other BLM state sage-grouse plans, the 2015 Colorado sage-grouse plan amendment did not remove the prioritization requirement.

until such time as the Court can adjudicate the claims on the merits. The 2015 Plans remain in effect during this time.¹⁶¹

In the order, the court found plaintiffs were likely to succeed on the merits of four claims against the BLM's 2019 Sage-Grouse Plan Amendments – failure to consider reasonable alternatives, failure to take a “hard look” at environmental impacts, failure to consider cumulative impacts, and failure to allow review of substantial changes to BLM's compensatory mitigation decisions.¹⁶² Given these substantial legal questions, the court granted the requested injunction against the 2019 plan amendments and enjoined BLM from applying the 2019 Amendments to approve leases, permits, licenses, or other approvals.¹⁶³ Following the court's order, the 2015 Sage Grouse ARMPA is the governing Resource Management Plan for this lease sale.

Under the requirements of the 2015 sage-grouse plan amendments, BLM must prioritize leasing outside of sage-grouse habitats. Given the precarious state of the North Park population and BLM's pattern of unexamined leasing decisions within its remaining habitat, BLM should comply by withdrawing all parcels containing PHMA and GHMA from the proposed sale. At a minimum, however, BLM must consider, under both NEPA and the 2015 ARMPA the site-specific impacts to the North Park population of greater sage-grouse, including new post-2015 scientific information, prior to offering the aforementioned parcels for lease.

Existing NEPA documents, including the FEISs for the 2015 and 2019 GRSG Approved Resource Management Plan amendments, do not contain sufficient site-specific analysis to justify leasing of greater sage-grouse habitat. First, the 2015 GRSG ARMPA ROD clearly contemplates that leasing and resulting oil and gas exploration and development will have adverse effects on greater sage-grouse that cannot be fully mitigated by the lease stipulations, conditions of approvals, and other measures incorporated in the ARMPA.¹⁶⁴ Those site-specific effects to particular GRSG subpopulations must be disclosed “before an irretrievable commitment of resources is made,” i.e., at the time of issuing an oil and gas lease that does not reserve the authority to preclude all drilling activities.¹⁶⁵

Second, the 2015 and 2019 northwest Colorado GRSG ARMPAs and their accompanying FEISs clearly contemplate that there will be additional site-specific analysis of leasing proposals and their impact on GRSG habitat prior to lease issuance. The Northwest Colorado GRSG ARMPA explicitly requires that “[w]hen analyzing leasing and authorizing development of fluid mineral resources, including geothermal, in PHMA and GHMA, and subject to applicable stipulations for the conservation of GRSG, priority will be given to development in non-habitat areas first and then in the least suitable habitat for GRSG.”¹⁶⁶ The BLM's Rocky Mountain RMPs, including the Northwest Colorado RMPs, as amended by the 2015 and 2019 GRSG ARMPA, further require that priority will be given to leasing and development of fluid mineral resources, outside of PHMA and GHMA. The Rocky Mountain Region RMPs—including the

¹⁶¹ *Western Watersheds Project v. Schneider*, No. 1:16-cv-83 (D. Idaho Oct. 16, 2019).

¹⁶² *Id.* at 19-25.

¹⁶³ *Id.* at 27.

¹⁶⁴ See GRSG Northwest Colorado ARMPA 2015 at 4-89 to 4-96.

¹⁶⁵ *New Mexico ex rel. Richardson v. BLM*, 565 F.3d 683, 718 (10th Cir. 2009).

¹⁶⁶ GRSG Northwest Colorado ARMPA 2015 at 2-14.

amended Little Snake, White River, and Kremmling RMPs—are subject to the following measure for both priority and general habitat management areas:

Prioritization Objective—In addition to allocations that limit disturbance in PHMAs and GHMAs, the ARMPs and ARMPAs prioritize oil and gas leasing and development outside of identified PHMAs and GHMAs. This is to further limit future surface disturbance and encourage new development in areas that would not conflict with GRSG. This objective is intended to guide development to lower conflict areas and as such protect important habitat and reduce the time and cost associated with oil and gas leasing development by avoiding sensitive areas, reducing the complexity of environmental review and analysis of potential impacts on sensitive species, and decreasing the need for compensatory mitigation.¹⁶⁷

Third, the BLM has failed to consider available scientific data related to the North Park population of greater sage-grouse. Notably, Rice et al. (2016)¹⁶⁸ provides a detailed study of baseline seasonal habitat selection for the North Park greater sage-grouse population that provides valuable information about how greater sage-grouse use the area that the BLM is leasing for oil and gas development.

The study used radio-telemetry data to develop pre-development seasonal habitat selection models for the North Park population of greater sage-grouse.¹⁶⁹ It then applied energy development variables to the model to evaluate its impact on the fit of the model.¹⁷⁰ The study found a lack of strong effects from the low-level energy development currently in the North Park.¹⁷¹ However, the authors clarify that one explanation is that most of the energy development takes place within sagebrush dominated patches in the study area.¹⁷² The lack of observed impacts is “an artifact of the higher amounts of sagebrush that drive the overall model.”¹⁷³ As oil and gas development increases significantly through this and the earlier September 2019 and March 2019 lease sales, it is reasonable to expect more significant impacts to greater sage-grouse. The study cautions that the “pattern of energy development within good sagebrush patches [at North Park] along with a slight avoidance of roads within 2 km of active well pads should cause some concern for wildlife and habitat managers.”¹⁷⁴

The authors of the study specifically identify that the baseline seasonal resource selection maps are valuable tools for conservation and to help consider impacts of energy development on greater sage-grouse.¹⁷⁵ The case study “supports the notion that is critically important for wildlife managers to analyze seasonal habitat use for a species before anthropogenic development

¹⁶⁷ GRSG Northwest Colorado ARMPA 2015 at 1-25.

¹⁶⁸ Rice et al., *Seasonal Habitat Use by Greater Sage-Grouse (Centrocercus urophasianus) on a Landscape with Low Density Oil and Gas Development*, PLoS ONE 11(10) (2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5082953/>

¹⁶⁹ *Id.* at 4.

¹⁷⁰ *Id.*

¹⁷¹ *Id.* at 13.

¹⁷² *Id.*

¹⁷³ *Id.* at 14.

¹⁷⁴ *Id.*

¹⁷⁵ *Id.* at 15-16.

occurs.”¹⁷⁶ The availability of a site-specific low-density energy development seasonal habitat model would allow the BLM to monitor impacts from recent oil and gas lease sales, make better siting decisions, and consider site-specific mitigation actions.¹⁷⁷ The BLM’s analysis does not include this valuable site-specific conservation tool because it failed to consider this study.

In another study by Oyler-McCance (2005)¹⁷⁸ the North Park population of greater sage-grouse was identified as a smaller, more fragmented population which likely had lower amounts of gene flow to the area. This site-specific information was not considered in the 2015 sage-grouse plan, 2019 amendments, nor the EAs, leaving BLM’s analysis severely lacking.

The BLM is further subject to clear direction in the Northwest Colorado RMP amendments that its greater sage-grouse RMP plans and conservation strategy rely not solely on stipulations within designated habitats (stipulations acknowledged as insufficient, to result in a net conservation gain for general habitat, *see* 2015 RMPA ROD at 1-30 to 1-31) but also that, prior to leasing, it implemented a requirement prioritizing development outside of all sage-grouse habitats. BLM cannot “analyz[e] leasing and development of fluid mineral resources,” as required by Objective MR-I, by blindly leasing large areas of PHMA and GHMA without, as proposed here, any additional NEPA analysis.¹⁷⁹ The EAs provide no evidence whatsoever that BLM has considered, let alone prioritized, whether other lands outside of sage-grouse habitat might be more suitable for new leasing than some 22,914 acres of GRSG habitat.

BLM must conduct the additional analysis required by Management Direction MR-6 in the Northwest Colorado GRSG ARMPA, which requires “[n]o new leasing in PHMA if disturbance cap exceeds 3 percent calculated by biologically significant unit (Colorado populations) and proposed project analysis area (Colorado MZ) or 1 disturbance per 640 acres density is exceeded,” prior to authorizing new leasing.¹⁸⁰ This management measure, like the prioritization objective, plainly contemplates that additional analysis of existing disturbance and density must occur at the time of proposed leasing. BLM must determine the extent of existing habitat disturbance on all proposed lease parcels within PHMA to ensure no new leasing occurs in PHMA that would violate MD MR-6.

BLM’s preferred alternative acknowledges that it must defer, in whole or part, four parcels “because the density cap has been reached in GRSG MZ’s 2 and 11.”¹⁸¹ The last-minute need to amend the lease sale to address violations of the ARMPA MR-6 density cap illustrates the urgency of the need to engage in robust site-specific analysis of impacts to sage-grouse prior to leasing. The LS/K EA, however, provides no actionable information or analysis whatsoever regarding existing disturbances in sage-grouse habitat nor the potential effects of the decision, making it impossible for the public or state agencies to provide informed comment on the

¹⁷⁶ *Id.* at 15.

¹⁷⁷ *Id.* at 15-16.

¹⁷⁸ Oyler-McCance et al., *A multilocus population genetic survey of the greater sage-grouse across their range*, *MOLECULAR ECOLOGY* (2005), <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-294X.2005.02491.x>.

¹⁷⁹ *See* Northwest Colorado Greater Sage-Grouse Approved RMP Amendment at 2-14, Objective MR-I.

¹⁸⁰ *Id.* at 2-15, MD MR-6.

¹⁸¹ EA at 25.

impacts to density within Colorado grouse populations or evaluate the basis, if any, for the BLM's decision and compliance with the 2015 Northwest Colorado Sage-Grouse ARMPA.

In addition, an apparent BLM policy of leasing virtually all nominated parcels within sage-grouse habitat is not only inconsistent with the RMPs and FLPMA's consistency requirement, it also undermines a fundamental assumption of the RMP Amendment EISs – as well as the U.S. Fish and Wildlife Service's determination that listing the greater sage-grouse under the Endangered Species Act was “not warranted.” That assumption is that the measures adopted in the RMP Amendments will result in oil and gas development tending to occur outside of greater sage-grouse habitat.

The Colorado BLM must consider alternatives other than the leasing of parcels consisting of all nominated sage-grouse habitat. The unexamined leasing of PHMA and GHMA further undermines the assumption in the Fish and Wildlife Service's “not warranted” finding for the greater sage-grouse that federal and state implementation of the “Wyoming Plan” for fluid minerals will continue the 2012-15 pattern of reduced drilling within core areas. If BLM is not actually going to give meaningful analysis of the effects of specific leasing decisions on sage-grouse habitat, it cannot rely on FEISs, such as the Northwest Colorado Sage Grouse RMP FEIS, that assume the effectiveness of that plan direction.

Finally, the LS/K EA ignores the fact that significant new information regarding oil and gas impacts on greater sage-grouse has become available since the 2015 ARMPA FEIS and was not considered in the 2019 RMP amendment FEIS. Recent peer-reviewed scientific publications have reviewed Greater Sage-Grouse population response to oil and gas management measures in Wyoming, and re-confirmed lek attendance by male sage-grouse declines approximately 2.5% per year in response to oil and gas development, and that attendance declines as development increases, even where well pad density is limited.¹⁸² In light of this information, BLM cannot continue to assume, against scientific evidence, that the management measures in the 2015 RMP amendments will be sufficient to stem sage-grouse population decline.

Holloran (2005) found that sage grouse avoided habitats within 3.1 miles of active oil and gas drilling operations, and within 2 miles of roads or wellpads during the production phase of oil and gas extraction.¹⁸³ How many acres of habitat within 5.3 miles of a lek, the habitat where nesting occurs, occur on the leases in question? How many acres of identified sage-grouse winter range occur on the leaseholds in question? The failure to consider the acreage of habitat lost due to abandonment of otherwise suitable habitats adjacent to roads and wellsites, and the failure to even quantify the amount of habitat critical to the life cycles of sage-grouse that occur on individual leases (much less evaluate the site-specific topography and how that might mitigate or exacerbate impacts of oil and gas development), constitute failures of NEPA's hard look requirements.

More recent scientific study confirms the established finding that sage-grouse lek attendance is negatively related to oil and gas density, regardless of sagebrush cover and

¹⁸² Green, Adam et al., Investigating Impacts of Oil and Gas Development on Greater Sage-Grouse, *Journal of Wildlife Management*, doi: 10.1002/jwmg.21179 (2016).

¹⁸³ Holloran, Matthew, Greater Sage-Grouse (*Centrocercus urophasianus*) Population Response to Natural Gas Field Development in Western Wyoming (2005).

participation.¹⁸⁴ Green et al. examined greater sage-grouse lek attendance, oil and gas well, and habitat and precipitation data from Wyoming over the period 1984 to 2008, and, consistent with numerous prior studies, that lek attendance declines are closely associated with the density of oil and gas development:

Oil and gas development correlates well with sage-grouse population declines from 1984 to 2008 in Wyoming, which is supported by other findings (Doherty et al. 2010b, Harju et al. 2010, Hess and Beck 2012, Taylor et al. 2013, Gregory and Beck 2014). As with other studies, we also found support for 4-year lag effects of oil and gas development on lek attendance (Walker et al. 2007, Doherty et al. 2010a, Harju et al. 2010, Gregory and Beck 2014). This result suggests that development likely affects recruitment into the breeding population rather than avoidance of wells by adult males or adult survival. Adult sage-grouse are highly philopatric to lek sites (Dalke et al. 1963, Wallestad and Schladweiler 1974, Emmons and Braun 1984, Dunn and Braun 1985, Connelly et al. 2011a), and males typically recruit to the breeding population in 2–3 years. We would expect a delayed response in lek attendance if development affects recruitment, either by reducing fecundity or avoidance of disturbance by nesting females, as adult males die and are not replaced by young males.

On average, lek attendance was stable when no oil and gas development was present within 6,400m (Fig. 4). However, attendance declined as development increased.¹⁸⁵

This is a level of protection far greater than that provided by the BLM’s 2015 and 2019 Northwest Colorado Sage-Grouse Plan Amendments. Importantly, Green et al. confirmed that declines in sage-grouse populations may continue even within Wyoming’s “core areas,” where density of wells is limited to approximately one pad per square mile.

As noted in one recent peer-reviewed study analyzing sage-grouse persistence under mitigation measures in Wyoming similar to those in the BLM sage-grouse plans:

Energy development has been shown to specifically impact male sage-grouse lek attendance, lek persistence, recruitment of yearling male and female grouse to leks, nest initiation and site selection, nest survival, chick survival, brood survival, summer survival of adult females, early brood-rearing habitat selection, adult female summer habitat selection, and adult female winter habitat selection¹⁸⁶.

Another study similarly found mitigation measures related to oil and gas development to be insufficient:

¹⁸⁴ Green, Adam et al., Investigating Impacts of Oil and Gas Development on Greater Sage-Grouse, *Journal of Wildlife Management*, doi: 10.1002/jwmg.21179 (2016).

¹⁸⁵ Green et al. at 9.

¹⁸⁶ Gamo, R. Scott & Beck, Jeffrey L., Effectiveness of Wyoming’s Sage-Grouse Core Areas: Influences on Energy Development and Male Lek Attendance, *59 Environmental Management*, 189–203, doi: 10.1007/s00267-016-0789-9 (2017).

[M]itigation efforts within the study resulted in less avoidance of wells overall. However, sage-grouse still avoided areas of high density wells. No nests were found in areas with greater than 4 wells per km² and most nests (62.82%) were located in areas with ≤ 1 well per km².¹⁸⁷

Other new scientific information has reaffirmed the harmful impacts of oil and gas development on greater sage-grouse. This research was summarized in a 2018 U.S. Geological Survey (USGS) publication as follows:

Before implementation of the State of Wyoming's Core Area¹⁸⁸ Strategy, lek attendance was correlated negatively with density of oil and gas wells (Green and others, 2017). Sage-grouse respond to development densities at multiple spatial scales surrounding leks with a 1- to 4-year time lag between oil and gas development and lek decline (Green and others, 2017). A possible explanation for a delayed response is that oil and gas development negatively affects sage-grouse recruitment into a breeding population (Green and others, 2017; but see Zabihi and others, 2017) rather than causing avoidance of an area or negatively affecting survival. Increasing density of oil and gas wells was correlated with decreasing lek attendance and effects on lek attendance were observed at a distance of 6.4 km from leks. Lek attendance was stable when no wells were present within 6.4 km of a lek and began declining after the addition of the first well. Allowable well densities that average one well pad per 640 acres within Core Areas may only be sufficient for limiting population declines to current rates but not for reversing the trend (Green and others, 2017). These analyses corroborated the findings of Gregory and Beck (2014) that suggested a maximum development density of one well pad within 2 km of leks to avoid measurable effects within 1 year and less than six well pads within 10 km of leks to avoid delayed effects. Other recent publications corroborated the negative relation between oil and gas development and sage-grouse populations or important life-history behaviors (Fedy and others, 2015a; Kirol and others, 2015a, b; Edmunds and others, 2017; Spence and others, 2017).¹⁸⁹

One study that has important implications for the BLM's leasing decision but was not incorporated in this lease sale's NEPA analysis is Smith et al. (2016), which found "use of winter habitats occurred over a longer period than current Core Area winter timing stipulations and a substantial amount of winter habitat outside of Core Areas was used by individuals that bred in Core Areas, particularly in smaller Core Areas."¹⁹⁰ Sage-grouse moved from their fall to winter habitat earlier and moved from their winter to breeding habitat later than current seasonal restrictions. BLM must consider effects on both winter habitat and areas of connectivity prior to authorizing new leases within the northwest Colorado, Parachute-Piceance-Roan, and North Park subpopulations.

¹⁸⁷ Fedy et al., *The Influence of Mitigation on Sage-Grouse Habitat Selection within an Energy Development Field*, PLoS ONE 10(4) (2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4383447/pdf/pone.0121603.pdf>

¹⁸⁸ Wyoming Core Areas roughly correlate to BLM's greater sage-grouse Priority Habitat Management Areas (PHMA).

¹⁸⁹ Hanser, S.E., et al., Greater sage-grouse science (2015–17)—Synthesis and potential management implications: U.S. Geological Survey Open-File Report 2018–1017, 46 p., <https://doi.org/10.3133/ofr20181017> (2018).

¹⁹⁰ See page 585 at Smith, K.T., et al, Does Wyoming's Core Area Policy Protect Winter Habitats for Greater Sage-Grouse? *Environmental Management* (2016) 58:585–596. DOI 10.1007/s00267-016-0745-8.

Smith et al. also identify an important failure of the Wyoming Core Area Strategy that BLM clearly did not account for in either the 2019 Colorado RMP EIS nor its non-existent lease sale EA analysis:

Land-use decisions that influenced Core Area boundaries resulted in removing some areas used by female sage-grouse from Core Area protection. Many areas outside of Core Areas identified as winter habitats contain breeding habitats, but were not included in Core Area designations to avoid existing development. The size and shape of constrained Core Areas relative to available sage-grouse breeding habitat in these areas resulted in more grouse locations falling outside Core Area protection during the breeding (15 Mar to 30 Jun) and winter (1 Dec to 15 Mar) seasons. This suggests seasonal use restrictions and potentially other means to avoid impacts should be afforded to winter habitats outside designated Core Areas, particularly in the Bighorn Basin where 17.6% of sage-grouse did not winter in designated Core Areas and only 62.5% of their winter locations fell within Core Areas. The amount and arrangement of winter habitats that fall outside of Core Areas dictates a need to assess Wyoming's Core Area Policy for future sage-grouse conservation. While Core Areas function as protection areas across a significant portion of sage-grouse breeding and nesting habitats throughout Wyoming, limited protection during other seasons does not support comprehensive sage-grouse conservation.¹⁹¹

Finally, Cross et al. (2018) identified locations that are important for maintaining the genetic connectivity of greater sage-grouse.¹⁹² In Colorado, these include the Little Snake watersheds, which provides connectivity between Colorado's sage-grouse populations and those in the Green River Basin in Wyoming and the Upper Bear watershed in Utah. This research corroborates another study (Fedy 2017)¹⁹³ that found genetic differentiation between greater sage-grouse in Wyoming's Bighorn and Powder River Basins and between sage-grouse in the northern and southern parts of Wyoming.

Cross et al. also identifies Wyoming watersheds that link together greater sage-grouse populations in several states:

The Green River Basin of Wyoming (Upper Green and Upper Green-Slate watersheds) sits just west of a low section of the North American Continental Divide connecting the Upper Snake Basin and Great Basin to the rest of Wyoming and farther up into the northeastern part of the species range. The Green River Basin also sits just north of the Yampa and White River Basins in Colorado (Little Snake watershed), and the Bear River Basin in Utah (Upper Bear watershed), both connected by low valleys to the south. Similarly, the Powder and Tongue River Basins of Wyoming (Crazy Woman watershed) connect to the north with both of the Dakotas and eastern Montana. The Bighorn River Basin, which ranks lower for other connectivity indices, connects to the

¹⁹¹ Smith et al. at 593-594.

¹⁹² Todd B. Cross et al., The genetic network of greater sage-grouse: Range-wide identification of keystone hubs of connectivity, *Ecology and Evolution* 2018;8:5394-5412 (2018), DOI:10.1002/ece3.4056.

¹⁹³ Fedy, B.C., Row, J.R. & Oyler-McCance, Integration of genetic and demographic data to assess population risk in a continuously distributed species, *Conservation Genetics* 18: 89 (2017), <https://doi.org/10.1007/s10592-016-0885-7>

southeastern-west subpopulation in the Yellowstone River Basin of Montana (Cross et al., 2016)—nodes in the Big Horn Lake watershed anchor both basins.¹⁹⁴

Based on this new information, prior to authorizing new leasing in particular in the Little Snake Watershed, BLM must examine the potential for ensuing development to affect connectivity between genetically distinct populations of greater sage-grouse.

II. BLM’s Proposal to Lease Parcels During an Economic Crisis Violates the Mineral Leasing Act.

BLM’s proposed leasing runs afoul of the Mineral Leasing Act in two key regards. First, it appears that all of the Las Animas lease parcels contain lands that have very low development potential. RGFO EA at 18. Second, it does not appear that BLM has examined whether any lessee has the intent to diligently develop many of the proposed parcels in light of the current economic crisis.

On the first matter, the Mineral Leasing Act allows leasing only where there are lands that are “known or believed to contain oil or gas deposits.” 30 U.S.C. § 226(a). Here, a large part of the December 2020 parcels is proposed for lease in areas with very low development potential. RGFO EA at 18. BLM has a duty to confirm where lands proposed for leasing are known or believed to contain oil and gas deposits. BLM has recently confirmed that leasing in areas with low development potential and little to no industry interest warrants removing parcels from proposed sales. For example, in Colorado, the agency removed 20 parcels totaling 27,529 acres in Grand County from a proposed lease sale, citing “low energy potential and reduced industry interest in the geographic area[.]”¹⁹⁵ BLM cannot blindly offer to lease public lands for oil and gas development without undertaking some steps to confirm that there exists reasonable development potential.

On the second matter, BLM also has a duty to determine whether operators have an intent to diligently develop the mineral leases. The agency confirmed this in a recent decision denying the issuance of an oil and gas lease to a lessee, explaining:

A fundamental requirement of every oil and gas lease, as stated in Section 4 on page 3 of Form 3100-1, is the requirement that the “Lessee must exercise reasonable diligence in developing and producing, and must prevent unnecessary damage to, loss of, or waste of leased resources.” This diligent development requirement has its basis in the Mineral Leasing Act of 1920, as amended. See 30 U.S.C. § 187. Thus, an expressed intent by a person offering to purchase a lease to not develop and produce the oil and gas resources on the leasehold would

¹⁹⁴ See pages 5408 to 5409 in Cross TB, Schwartz MK, Naugle DE, Fedy BC, Row JR, Oyler-McCance SJ. The genetic network of greater sage-grouse: Range-wide identification of keystone hubs of connectivity. *Ecol Evol.* 2018;8:5394–5412. <https://doi.org/10.1002/ece3.4056>.

¹⁹⁵ BLM, “BLM modifies parcel list for June 2017 oil and gas lease sale” (April 17, 2017) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 59).

directly conflict with the diligent development requirement and require that the offer be rejected.¹⁹⁶

This decision makes clear that the BLM is obligated to ensure that interest in these parcels is legitimate as it did in the case of Ms. Tempest-Williams. *Id.* Indeed, BLM would be foolish not to ensure their investment given that the oil and gas industry has been declining since before the pandemic and is now entering a long term decline.¹⁹⁷ BLM clearly has the power to do so, given that the agency has cancelled oil and gas lease sales in all of the Western states for the months of May and June.¹⁹⁸ Thus, we request that BLM cancel this sale as well.

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

BLM has broad discretion and should remove the parcels from nomination. The agency's chosen path of opening this vast swath of Colorado up to oil and gas development would threaten our climate, clean air, clean water, wildlife, and communities. Quite simply, developing this area for oil and gas represents an unnecessary and avoidable risk that would threaten Colorado'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 All. 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

¹⁹⁶ BLM, Oil and Gas Noncompetitive Lease Offers Rejected (Oct. 18, 2016) (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 60).

¹⁹⁷ Center for International Env'tl. Law, Pandemic Crisis, Systemic Decline: Why Exploiting the COVID-19 Crisis Will Not Save the Oil, Gas, and Plastic Industries (2020), <https://www.ciel.org/wp-content/uploads/2020/04/Pandemic-Crisis-Systemic-Decline-April-2020.pdf> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 61).

¹⁹⁸ Trump Administration Delays Big Wyoming Oil and Gas Lease Sale, Reuters, June 12, 2020, <https://af.reuters.com/article/commoditiesNews/idAFL1N2DP1DF> (previously attached to our September 14, 2020 comments on the draft EAs as Exhibit 61.5).

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 Foundation 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 FOOGLRA 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, as well as the reasons outlined above, we request that BLM reconsider its decision to lease the December 2020 parcels.

IV. Conclusion

The Conservation Groups respectfully request that BLM remove all 42 parcels for the December 2020 lease sale and cancel the sale based on the issues identified above.

Sincerely,



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