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Defending the West www.westernlaw.org

Western Environmental Law Center

February 28, 2019

Protest Filed by USPS, Overnight Delivery and ePlanning

U.S. Bureau of Land Management
Montana State Office
Fluid Minerals
Attn: Amy Waring
5001 Southgate Drive
Billings, MT 59101

Re: Protest of the Montana BLM's March 2019 Competitive Oil and Gas Lease Sale

Dear Bureau of Land Management:

The Western Environmental Law Center ("WELC") and Earthjustice, on behalf of WildEarth Guardians, the Sierra Club, Center for Biological Diversity, Western Watersheds Project, Montana Environmental Information Center, Waterkeeper Alliance, Earthworks, David Katz, and Jack and Bonnie Martinell (together "Citizen Groups"), submit the following protest of the Sale Notice, Environmental Assessment, Finding of No Significant Impact, and recommended stipulations for the 305 parcels that are part of BLM's March 2019 competitive oil and gas lease sale. These parcels are located in the Billings, Glasgow, Havre, Miles City, and South Dakota Field Offices.

The names, mailing addresses, and telephone numbers for each protester are listed below:

WildEarth Guardians
2590 Walnut St.
Denver, CO 80205
(406) 698-1489

Sierra Club
2101 Webster St. Suite 1300
Oakland, CA 94612
(415) 977-5500

Montana Environmental Information Center
P.O. Box 1184
Helena, MT 59624
(406) 443-2520

Waterkeeper Alliance, Inc.
180 Maiden Lane, Suite 603
New York, NY 10038
(212) 747-0622

Western Watersheds Project
P.O. Box 779
Depoe Bay, OR 97341
(928) 322-8449

Center for Biological Diversity
1536 Wynkoop Street Suite #421
Denver, CO 80202
(520) 623-5252

Earthworks
1612 K ST., NW, Suite 904
Washington, D.C., 20006
(202) 887-1872

David Katz
1473 Stillwater River Road
Nye, MT 59061
(408) 529-7410

Bonnie and Jack Martinell
Boja Farm
157 Hergenrider Rd
Bridger, MT 59014
(406) 664-3010

We, Laura King and Joel Minor, have been authorized to file this protest on behalf of the above groups.

I. INTERESTS AND PARTICIPATION OF PROTESTING PARTIES

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

WildEarth Guardians (“Guardians”) is dedicated to protecting and restoring the wildlife, wild places, wild rivers, and health of the American West. Guardians is a west-wide environmental advocacy organization with thousands of members in Montana and surrounding states. Guardians members live in and regularly use and enjoy lands in the Lease Sale area.

The **Sierra Club** was founded in 1892 and is the nation’s oldest grassroots environmental organization. The Sierra Club is incorporated in California, and has over 790,000 members nationwide and is dedicated to the protection and preservation of the environment. The Sierra Club’s mission is to explore, enjoy and protect the wild places of the earth; to practice and promote the responsible use of the earth’s ecosystems and resources; and to educate and enlist humanity to protect and restore the quality of the natural and human environments. The Sierra Club has a Montana Chapter, with nearly 3,000 members across Montana, including members in the areas of this lease sale. The Sierra Club has members that live in, work and use this area for recreation such as hiking, snowshoeing, cross-country skiing, climbing, backpacking, camping, fishing and wildlife viewing, as well as for business, scientific, spiritual, aesthetic and environmental purposes.

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 Montana 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.

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.

Upper Missouri Waterkeeper is a Montana non-profit water advocacy organization focused on protecting fishable, swimmable, drinkable water throughout the 25,000 sq. miles of southwest and west-central Montana's Upper Missouri River Basin. We use a combination of strong science, community action, and the law to defend this unique river basin and its headwaters from projects that would do harm. Waterkeeper members live, work, recreate, and/or visit many of the areas proposed for oil and gas leases, including in particular the majority of the Big Hole and Beaverhead river systems, and therefore have discrete, particularized interests in BLM's decisionmaking at-hand.

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 Montana, 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.

Earthworks is a membership-based 501(c)(3) nonprofit organization, dedicated to protecting communities and the environment from the adverse impacts of mineral and energy development while promoting sustainable solutions. Earthworks was created in 2005, when two organizations (the Mineral Policy Center and the Oil & Gas Accountability Project) joined forces. Earthworks collaborates with communities and grassroots groups to reform government

policies to better protect air, water, public lands and communities from threats posed by mineral development.

David Katz is a Montana landowner whose family has owned property on the Stillwater River in Stillwater County for forty-five years. Development of oil and gas leases on public land will adversely impact him by jeopardizing usable groundwater. Moreover, his property sits on a dirt road that is likely to be affected by dust and road damage from oil and gas development. For example, rockslides have closed the road in the past, and the hundreds or thousands of trips by heavy trucks typically required for modern fracking operations threaten to cause future rockfalls and road closures.

Jack and Bonnie Martinell are owners of a chemical-free orchard in Carbon County, Montana. Previous oil and gas drilling in the area has affected their orchard operations with dust, odors, and air pollution from truck traffic, which has disrupted pollination and caused other impacts to the farm. An increase in oil and gas activity from new leases will further disrupt farm activities, and degrade the Martinells' quality of life. Development of oil and gas leases may threaten usable groundwater underlying their farm. Their farm is irrigated by well water, as well as from a ditch flowing from the Clarks Fork River. The area is semi-arid, and the Martinells anticipate needing to rely on deeper sources of groundwater in the future. Groundwater contamination from drilling authorized by BLM may threaten their current and future sources of drinking water and water used for irrigation of their orchard.

II. STATEMENT OF REASONS IN SUPPORT OF CONSERVATION GROUPS' PROTEST OF THE MONTANA MARCH 2019 LEASE SALE

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

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

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

Thus, while "NEPA itself does not mandate particular results, but simply prescribes the necessary process," *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989), agency adherence to NEPA's action-forcing statutory and regulatory mandates helps federal

agencies ensure that they are adhering to NEPA’s noble purpose and policies. *See* 42 U.S.C. §§ 4321, 4331.

Below, Conservation Groups detail major flaws under NEPA that remain in the Environmental Assessment and Finding of No Significant Impact for the Montana March 2019 Lease Sale:

- BLM failed to consider the significant impact of the March 2019 Lease Sale on groundwater.
- BLM failed to consider the cumulative impacts of the March 2019 Lease Sale and lease sales in other Western states.
- BLM has failed to consider a reasonable range of alternatives.
- The BLM cannot lease any parcels within the Miles City Field Office until the BLM fully complies with the decision in *Western Organization of Resource Councils v. U.S. Bureau of Land Management*, CV 16-21-GF-BMM, 2018 WL 1475470, (D. Mont. Mar. 26, 2018).
- BLM failed to fully analyze GHG emissions, including cumulative emissions and “lifecycle” emissions, and fails to analyze the social costs of these reasonably foreseeable emissions.
- BLM failed to take into account rapidly shrinking global carbon budgets.
- BLM failed to prepare an EIS.
- BLM failed to consider impacts to Greater Sage-Grouse, Northern Long-Eared Bat, and Pallid Sturgeon

III. DISCUSSION

A. BLM Has Failed to Consider the Significant Impact of the Lease Sale on Groundwater.

The Environmental Assessment wrongly determined that offering parcels for leasing would not significantly impact water resources. Because there is evidence that current industry practices do not adequately protect usable groundwater from contamination, and that issuance of these leases will likely have a significant effect on usable groundwater, an environmental impact statement (EIS) should be prepared.

BLM must “consider every significant aspect of the environmental impact of a proposed action.” *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 87 (1983). “A determination that significant effects on the human environment will in fact occur is not essential. . . . If substantial questions are raised whether a project may have a significant effect upon the human environment, an EIS must be prepared.” *Found. for N. Am. Wild Sheep v. U.S. Dep’t of Agric.*, 681 F.2d 1172, 1178 (9th Cir. 1982). When an agency relies on mitigation measures to reach a finding of no significant impact, mitigation must be assured to occur. If the effectiveness of mitigation is not assured, then the finding of no significant impact is invalid and the agency must prepare an EIS. *Id.*

The proposed lease sales overlie potential sources of drinking water. Under the Safe Drinking Water Act, an “underground source of drinking water” is defined as an aquifer with water that contains less than 10,000 mg/L (10,000 ppm) of total dissolved solids. 40 C.F.R. § 146.3; 40 C.F.R. § 144.3. Following the Safe Drinking Water Act’s (SDWA’s) definition, in its “Onshore Oil and Gas Order No. 2,” BLM similarly defines “usable water” as water containing less than 10,000 ppm of total dissolved solids. 53 Fed. Reg. 46,798, 46,801, 46,805 (Nov. 18, 1988). While water with salinity approaching 10,000 ppm total dissolved solids is considered “brackish,” such aquifers are increasingly being used for drinking water. In fact, EPA adopted the 10,000 ppm standard based on the 1974 legislative history of SDWA, which explained that Congress intended SDWA to “protect not only currently-used sources of drinking water, but also potential drinking water sources for the future.” H.R. Rep. No. 93-1185 (1974), 1974 U.S.C.C.A.N. 6454, 6484; *see also* U.S. Geological Survey, *Brackish Groundwater in the United States* (2017) (Exhibit A to Dec. 21, 2018 comments from WildEarth Guardians, et al. (Comments)) (suggesting brackish groundwater may offer a partial solution to current and future water demands).¹

The EA acknowledges that lease sales occur in areas overlying aquifers containing usable water, including water that is suitable for domestic use, wildlife use, and stock watering. EA at 49-52. Thus, it is of paramount importance that BLM adequately evaluate whether the proposed lease sales will impact usable groundwater in the leasing area.

In the proposed lease sale, BLM has assumed without analysis that usable groundwater will be protected. The EA made no attempt to evaluate the quality and depths of groundwater underlying each of the proposed leases or determine which particular leases would overlie usable groundwater. Nor did it attempt to explain whether and how this research would be completed before lease development. Rather, the EA simply punted the analysis of potential effects to the lease development stage, EA at 61; EA Appx F at 6-7, while simultaneously concluding that at that stage groundwater would be protected by state and federal rules, because “[a]ll wells would be cased and cemented pursuant to Montana Board of Oil and Gas Conservation (MBOGC) . . . rules . . . and Onshore Oil and Gas Orders No. 1 & 2,” as well as “Montana Department of Environmental Quality (MDEQ) regulations to prevent cross-aquifer contamination.” EA at 63; *see also* EA Appx F at 6.

Contrary to BLM’s unfounded assumption that groundwater will be protected, there is substantial evidence that usable groundwater will not be protected by the oil and gas drilling authorized by these lease sales. Despite the assertion that federal and state regulations will prevent aquifer contamination, EA at 63, Montana, South Dakota, and North Dakota regulations do not specifically require wells to have surface casing extend below all sources of usable water. *See generally* Administrative Rules of Montana Board of Oil and Gas Conservation, Chapter 22, Rules 36.22.101-36.22.1707; South Dakota Regulations 74:12:01-74:12:10; North Dakota Oil and Gas Division Rule 43-02-03-21. Moreover, BLM’s Onshore Order No. 2’s requirement to “protect and/or isolate all usable water zones” is inconsistently applied and often disregarded in practice. BLM itself has admitted that there is “continued confusion over which standard of

¹ Exhibits A-H to Protestors’ December 21, 2018 Comments were previously submitted to BLM, and are incorporated by reference.

water needs to be isolated and/or protected” under Onshore Order No. 2. BLM, Regulatory Impact Analysis for the Final Rule to Rescind the 2015 Hydraulic Fracturing Rule at p. 44-45 (Dec. 2017) (Exhibit B to Comments); *see also* Environmental Protection Agency comments on Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands; Rescission of a 2015 Rule at 4 (commenting that BLM has in practice interpreted “usable water” inconsistently with how it is defined under the Safe Drinking Water Act) (Exhibit C to Comments).

Industry, moreover, has admitted that despite Onshore Order No. 2, it often does not comply with the Onshore Order No. 2 standard in practice. Western Energy Alliance and the Independent Petroleum Association of America (collectively, “WEA”) have told BLM that the “existing practice for locating and protecting usable water” does not measure the numerical quality of water underlying drilling locations, and therefore does not take into account whether water containing less than 10,000 mg/L would be protected during drilling. Sept. 25, 2017 WEA comments at 59 (WEA comments), excerpts attached to Comments as Exhibit D.² Instead, companies in Montana say they only install protective casing for the Pierre Shale formation, even if additional well casing would be needed to protect usable water located deeper than that formation. *Id.* Notably, there is nothing in Montana’s oil and gas regulations that explicitly requires protective casing for the Pierre Shale formation or any other particular aquifer. *See generally* Administrative Rules of Montana Board of Oil and Gas Conservation, Chapter 22, Rules 36.22.101-36.22.1707. WEA has explained that actually requiring companies to protect all underground sources of drinking water would result in substantial additional costs for “casing and cementing associated with isolating formations that meet the numerical definition of usable water under the [Onshore Order No. 2 standard], but which are located at depths deeper than the zones that state agencies and BLM field offices have previously designated as requiring isolation.” WEA comments at 84. WEA predicted that complying with the 10,000 ppm usable water standard would cost industry nearly \$174 million per year in additional well casing expenses. *Id.* at 84-85. Industry’s admissions raise a significant environmental concern that BLM must address before issuing new leases, that is not addressed in the EA. Accepting WEA’s statements as true, BLM and energy companies have been putting numerous underground sources of drinking water at risk.

A recent review of nine production wells in Carbon and Stillwater counties in Montana has confirmed that industry admissions that oil and gas well casing and cementing practices may not protect usable water. *See* Dr. Dominic Digiulio, *Examination of Selected Production Files in Southcentral Montana to Support Assessment of the March 2018 BLM Lease Sale* (Exhibit E to Comments). The report found that surface casing for the reviewed wells was generally shallow, extending only 288-617 feet below ground, even though the wells themselves extended thousands of feet below and through aquifers containing usable water. The report therefore concluded that “[b]ased on the shallow depth of surface casing and apparent lack of cement outside intermediate or production casing at depths in contact with usable water, it does not

² A complete copy of WEA’s comments is available at: <https://www.regulations.gov/document?D=BLM-2017-0001-0412>.

appear that usable water was protected during production at these wells as required by Onshore Rule #2.” *Id.* at p. 2.³

Recent reports have also linked oil and gas production to threatened or actual contamination of usable water. For example, a 2016 EPA report reviewed the effect of hydraulic fracturing—a common oil and gas extraction technique—on groundwater. EPA’s report found that in some areas in Montana there was no vertical separation between the hydraulically fractured rock formation and the bottom of the underground drinking water resource. In such cases, hydraulic fracturing may introduce toxic fracturing fluid “into formations that may currently serve, or in the future could serve, as a drinking water source for public or private use.” EPA Report at ES-32 (Exhibit F to Comments). EPA noted that “[t]his is of concern in the short-term if people are currently using these formations as a drinking water supply. It is also of concern in the long-term, because drought or other conditions may necessitate the future use of these formations for drinking water.” *Id.*

Other recent studies have had similar findings. Researchers investigating the oil and gas-related contamination in Pavillion, Wyoming reported that shallow fracturing also occurs in Montana. Gayathri Vaidyanathan, *Fracking Can Contaminate Drinking Water* at 8, *Sci. Am.* (Apr. 4, 2016) (*Sci. Am.* Article) (Exhibit G to Comments). The researchers concluded that “it is unlikely that impact to [underground sources of drinking water] is limited to the Pavillion Field . . .” Dominic C. DiGiulio & Robert A. Jackson, *Impact to Underground Sources of Drinking Water and Domestic Wells from Production Well Stimulation and Completion Practices in the Pavillion, Wyoming Field*, 50 *Am. Chem. Society, Env’tl. Sci. & Tech.* 4524, 4532 (Mar. 29, 2016) (Exhibit H to Comments).

WEA’s description of widespread non-compliance with Onshore Order No. 2, and the evidence that shallow hydraulic fracturing is contaminating usable water, raise a significant environmental issue that must be addressed as a reasonably foreseeable effect of the lease sale. *Baltimore Gas & Elec. Co.*, 462 U.S. at 87. NEPA requires agencies to “analyze the mitigation measures in detail [and] explain how effective the measures would be. A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA.” *Nw. Indian Cemetery Protective Assn. v. Peterson*, 764 F.2d 581, 697 (9th Cir. 1985), *rev’d on other grounds*, 485 U.S. 439 (1988). In other words, BLM must ensure that companies are actually complying with Onshore Order No. 2’s mandate to protect usable water before authorizing new

³ In response to our Comments, BLM asserts that the wells addressed in Dr. DiGiulio’s report actually were completed in compliance with Onshore Order No. 2 because the companies “accounted for site specific variability.” EA Appx. F at 70-71. This response contradicts repeated statements elsewhere by BLM. Moreover, the response to comments does not indicate what factors allegedly warranted such a departure from the requirements of Onshore Order No. 2, or demonstrate that any such determination actually was made at the time the wells in question were approved. In any event, to the extent BLM now believes that groundwater can be protected absent adequate surface casing and cementing, the agency has an obligation to explain that reversal and provide an analysis to support it. Moreover, BLM has a duty to analyze whether such an approach would be effective in mitigating impacts to groundwater. BLM has provided no such analysis or explanation.

leases. In this case, BLM cannot assure effectiveness of later mitigation to protect usable water. As a result, BLM cannot sign a Finding of No Significant Impact and must prepare an EIS. *Found. for N. Am. Wild Sheep*, 681 F.2d at 1178–81. This analysis may not be deferred to the application to drill stage. “NEPA is not designed to postpone analysis of an environmental consequence to the last possible moment.” *Kern v. BLM*, 284 F.3d 1062, 1072 (9th Cir. 2002). NEPA requires that an agency prepare an EIS before there is an “irreversible and irretrievable commitment of resources.” *Conner v. Burford*, 848 F.2d 1441, 1446 (9th Cir. 1988). Courts have held BLM makes an irreversible and irretrievable commitment where, as here, it issues oil and gas leases without reserving the right to prohibit development. *Id.* Thus, an EIS should have been prepared now while at the leasing stage to evaluate the cumulative effect on groundwater from the proposed sale, and analyze whether additional mitigation or alternatives should be proposed to mitigate that risk.

Ignoring evidence of widespread noncompliance with BLM’s standards for protecting underground sources of drinking water violates NEPA. To make an informed decision on whether to lease these lands, BLM needs to know whether doing so will put underground sources of drinking water at risk, and what additional stipulations or other steps are needed to prevent such contamination. BLM may not simply assume that groundwater will be protected by current practices, in light of information showing these practices are ineffective at protecting groundwater. The information necessary to make such an assessment is readily available in BLM’s own permitting files for existing oil and gas wells, from produced water records on existing wells, and from other sources such as US Geological Survey reports, as evidenced by the attached report by Dr. DiGiulio (Exhibit E to Comments). Moreover, to the extent any information gaps exist, it is incumbent on BLM to obtain that additional information before making an irreversible commitment of resources by issuing the leases. Additional data on, for example, aquifer quality, depth, and well construction practices is “essential to a reasoned choice among alternatives” and can be collected at a cost that is not “exorbitant.” *See* 40 C.F.R. § 1502.22. BLM must defer offering the proposed leases until it has prepared an EIS because the Environmental Assessment supporting the lease sale fails to adequately analyze impacts to usable groundwater, and substantial evidence suggests that the lease sale will have a significant impact on groundwater.

B. BLM Has Failed to Consider the Cumulative Impacts of the Lease Sales.

Under NEPA, BLM is required to evaluate the cumulative impacts of the lease sale “resulting from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.” 40 C.F.R. § 1508.27(b)(7). “The cumulative impact analysis must be more than perfunctory; it must provide a “useful analysis of the cumulative impacts of past, present, and future projects.” *Kern v. BLM*, 284 F.3d at 1075. Proper consideration of cumulative impacts requires “some quantified or detailed information” and general statements about possible effects “do not constitute a hard look absent a justification regarding why more definitive information could not be provided.” *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 993-94 (9th Cir. 2004).

Here, BLM has not prepared an adequate cumulative impacts analysis evaluating the effects of the lease sale with other recent lease sales. In addition to the March 2019 sale, BLM

has sold, and has proposed to sell millions of acres of other oil and gas leases in Montana, North Dakota, South Dakota, Colorado, Wyoming and other western states. These sales together will have significant cumulative environmental impacts including on groundwater. The EA for the lease sale, however, did not provide “quantified or detailed information” evaluating the cumulative impacts of these sales or from other reasonably foreseeable actions cumulatively affecting people and the environment. *Klamath-Siskiyou Wildlands Ctr*, 387 F.3d at 993–94.

C. BLM Has Failed to Consider a Reasonable Range of Alternatives.

NEPA mandates that the BLM provide a detailed statement regarding the alternatives to a proposed action. *See* 42 U.S.C. § 4332(2)(C)(iii); 42 U.S.C. § 4332 (2)(E). NEPA’s requirement that an agency consider alternatives to its proposed action is the “heart” of environmental review. 40 C.F.R. § 1502.14; 40 C.F.R § 1508.9(b). Consideration of reasonable alternatives is necessary to ensure that BLM has taken into account all possible approaches to, and potential environmental impacts of, a particular project. *Calvert Cliffs Coordinating Comm., Inc. v. U. S. Atomic Energy Comm’n*, 449 F.2d 1109, 1119 (D.C. Cir. 1971). “NEPA’s alternatives requirement, therefore, ensures that the ‘most intelligent, optimally beneficial decision will ultimately be made.’” *N. Alaska Envtl. Ctr. v. Kempthorne*, 457 F.3d 969, 978 (9th Cir. 2006). BLM must “rigorously explore and objectively evaluate all reasonable alternatives.” 40 C.F.R. § 1502.14. “The existence of a viable but unexamined alternative renders an environmental impact statement inadequate.” *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir.1985).

In the EA, BLM evaluated only the Proposed Action (leasing all parcels), an Alternative C that was identical to the Proposed Action with regard to groundwater protection, EA at 64, and a No Action Alternative. This was inadequate. BLM should have evaluated alternatives that would have protected usable groundwater, including, among other things:

- Not leasing parcels in areas overlying usable groundwater or where there is little or no vertical separation between hydraulically fractured areas and groundwater;
- Including other measures to ensure that all usable groundwater zones are protected, potential:
 - attaching a lease stipulation or lease notice requiring the lessee to perform groundwater testing prior to drilling to identify all usable water;
 - attaching a lease stipulation or lease notice requiring specified casing and cementing depths below all usable; and
 - consulting with the U.S. Geological Survey and other agencies to identify groundwater with up to 10,000 ppm total dissolved solids.

See, e.g., Nat. Res. Def. Council v. U.S. Forest Serv., 421 F.3d 797, 813 (9th Cir. 2005) (holding that the Forest Service had unlawfully failed to consider an alternative to a timber program that would have provided greater protection for old-growth habitat); *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 813 (9th Cir. 1999) (“Forest Service failed to consider an adequate range of alternatives” when the “EIS considered only a no action alternative along with

two virtually identical alternatives”); *Colo. Env'tl. Coal. v. Salazar*, 875 F. Supp. 2d 1233, 1248 (D. Colo. 2012) (holding that BLM unlawfully failed to consider an alternative to oil and gas leasing that would have involved minimal surface disturbance); *The Wilderness Soc’y v. Wisely*, 524 F. Supp. 2d 1285, 1312 (D. Colo. 2007) (holding that BLM should have considered a “potentially appealing middle-ground compromise between the absolutism of the outright leasing and no action alternatives” that would have reduced environmental impacts).

We ask BLM to defer offering the lease parcels until it conducts this analysis because it has failed to adequately consider a reasonable range of alternatives that would protect usable groundwater.

E. BLM Must Fully Analyze GHG Emissions, Including Cumulative Emissions and “Lifecycle” Emissions, and Must Analyze the Social Costs of These Reasonably Foreseeable Emissions.

NEPA requires “reasonable forecasting,” which includes the consideration of “reasonably foreseeable future actions . . . even if they are not specific proposals” *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1079 (9th Cir. 2011) (citation omitted). That BLM cannot “accurately” calculate the total emissions expected from full development is not a rational basis for cutting off its analysis. “Because speculation is . . . implicit in NEPA,” agencies may not “shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as crystal ball inquiry.” *Id.*

For the March 2019 lease sale, BLM must calculate the amount of greenhouse gas emissions that will result on an annual basis from (1) each of the fossil fuels that can be developed within the planning area; (2) each of the well stimulation or other extraction methods that can be used, including, but not limited to, fracking, acidization, acid fracking, and gravel packing; and (3) cumulative greenhouse gas emissions expected over the long-term (expressed in global warming potential of each greenhouse pollutant as well as CO2 equivalent), including emissions throughout the entire fossil fuel lifecycle discussed below. In its cumulative emissions analysis, the BLM must analyze greenhouse gas emissions from similar, collectively significant oil and gas lease sales within Montana, as well as throughout the Rocky Mountain West and on BLM-managed leases nationwide.

BLM’s environmental review must include not only emissions from drilling operations, but the full “lifecycle” emissions from the transportation, refining, processing, leakage, and combustion of the oil and gas produced. It is reasonably foreseeable that this lease sale will induce oil and natural gas production, transmission and ultimate end-user climate change impacts. The effects of this induced production must be fully analyzed. *See, e.g., N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1081-82 (9th Cir. 2011) (finding that NEPA review must consider induced coal production at mines, which was a reasonably foreseeable effect of a project to expand a railway line that would carry coal, especially where company proposing the railway line anticipated induced coal production in justifying its proposal); *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549-50 (8th Cir. 2003) (environmental effects of increased coal consumption due to construction of a new rail line to reach coal mines was reasonably foreseeable and required evaluation under NEPA).

While we commend BLM’s attempt at quantifying potential downstream GHG emissions based on a Reasonably Foreseeable Development Scenario for this lease sale, the assumptions, calculations, and methodology of this analysis leave much to be desired. EA at 31 (Table 5), 34 (Table 6). BLM can and should have calculated potential lifecycle greenhouse gas emissions using a tool such as the lifecycle greenhouse gas emissions model developed by EcoShift consulting.⁴ Courts have upheld the viability and usefulness of lifecycle analyses, and adoption of this trend is clearly reflected in the CEQ Guidance on Climate Change . 81 Fed. Reg. 51, 866 at 11 (Aug. 5, 2016) (“This guidance recommends that agencies quantify a proposed agency action’s projected direct and indirect GHG emissions. Agencies should be guided by the principle that the extent of the analysis should be commensurate with the quantity of projected GHG emissions and take into account available data and GHG quantification tools that are suitable for and commensurate with the proposed agency action”).

Additionally, the BLM must ensure that it includes a discussion on the social cost of carbon protocol, 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. The Interagency Working Group’s social cost of carbon metrics remain the best estimates yet produced by the federal government for monetizing the impacts of GHG emissions and are “generally accepted in the scientific community,” 40 C.F.R. § 1502.22(b)(4). This is true notwithstanding Executive Order 13,783, which disbanded the Interagency Working Group and formally withdrew its technical support documents. Exec. Order. No. 13,783 § 5(b), 82 Fed. Reg. 16,093 (Mar. 28, 2017). Not only does BLM’s failure to use this best available science violate NEPA’s hard look mandate, but because the agency includes an extensive analysis of the economic benefits from leasing, see EA at 43-45, the BLM’s analysis is also misleading and in violation of the decision in *High Country Conservation Advocates v. U.S. Forest Service*. 52 F.Supp. 3d 1174, 1193 (D. Colo. 2014).

F. BLM Must Consider Rapidly Shrinking Global Carbon Budgets When Authorizing Additional Fossil Fuel Development on Public Lands.

The United States has committed to the climate change target of holding the long-term global average temperature “to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels”⁵ under the Paris Agreement.⁶ The Agreement recognized the 1.5°C climate target because 2°C of warming is no

⁴ See Ecoshift Consulting, *The potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels*, Center for Biological Diversity and Friends of the Earth (2015), available at: <http://www.ecoshiftconsulting.com/wpcontent/uploads/Potential-Greenhouse-Gas-Emissions-U-S-Federal-Fossil-Fuels.pdf>.

⁵ United Nations Framework Convention on Climate Change, Conference of the Parties, Nov. 30-Dec. 11, 2015, Adoption of the Paris Agreement Art. 2, U.N. Doc. FCCC/CP/2015/L.9 (December 12, 2015), <http://unfccc.int/resource/docs/2015/cop21/eng/109.pdf> (“Paris Agreement”).

⁶ On December 12, 2015, 197 nation-state and supra-national organization parties meeting in Paris at the 2015 United Nations Framework Convention on Climate Change Conference of the

longer considered a safe guardrail for avoiding catastrophic climate impacts and runaway climate change.⁷

Research that models emissions pathways for meeting 1.5° or 2°C targets shows that a rapid end to all fossil fuel extraction in the United States is critical. Specifically, research indicates that *global* fossil fuel CO₂ emissions must *end entirely* by mid-century and likely as early as 2045 for a reasonable likelihood of limiting warming to 1.5° or 2°C.⁸ The United States must end fossil fuel CO₂ emissions even earlier: between 2025 and 2030 on average for a reasonable chance of staying below 1.5°C, and between 2040 and 2045 on average for a reasonable chance of staying below 2°C.⁹ Ending U.S. fossil fuel CO₂ emissions between 2025 and 2030, consistent with the Paris climate targets, would require an immediate halt to new production and closing most existing oil and gas fields and coal mines before their reserves are fully extracted.

If new leasing ceases and existing non-producing leases are not renewed, 12% of oil production could be avoided in 2025 and 65% could be avoided by 2040 while 6% of natural gas production could be avoided in 2025 and 59% could be avoided by 2040.¹⁰ A comparison with other measures shows that “no leasing” could be a very significant part of U.S. efforts to address climate change. The 100 Mt CO₂ emissions savings that could result from no leasing in 2030 compares favorably with EPA standards for light- and medium-vehicles that are expected to yield 200 Mt in CO₂ savings in 2030, and with standards for heavy-duty vehicles that are expected to yield 70 Mt in CO₂ savings in the same year.

Also, importantly, avoided production through no new leasing and non-renewal of existing non-producing leases could help avoid further carbon lock-in in terms of investment in both fossil fuel-producing and fossil fuel-using infrastructure.¹¹

Simply put, the timeframe to avoid catastrophic climate change is short, and the management of our federal minerals must fall into step with this reality.

Parties consented to the Paris Agreement committing its parties to take action so as to avoid dangerous climate change.

⁷ Although President Trump announced on June 1, 2017 that the U.S. would withdraw from the Paris Agreement, the earliest possible effective withdrawal date is November 4, 2020, in accordance with Article 28 of the Agreement.

⁸ Rogelj, Joeri et al., Energy system transformations for limiting end-of-century warming to below 1.5° C, 5 Nature Climate Change 519 (2015).

⁹ See Climate Action Tracker, USA (last updated 6 November 2017), <http://climateactiontracker.org/countries/usa> at Rating figure showing U.S. emissions versus year (last visited Nov. 13, 2017).

¹⁰ Peter Erickson and Michael Lazarus, *How Would Phasing Out U.S. Federal Leases for Fossil Fuel Extraction Affect CO₂ Emissions and 2°C Goals?*, Stockholm Environmental Institute (2016) at 16.

¹¹ *Id.* at 30.

As described in Conservation Groups' prior comments, the 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).

G. BLM Must Take a Hard Look at Site-Specific Impacts.

BLM must complete a NEPA analysis for all site-specific impacts before it proceeds with the proposed lease sale. Yet, in a number of places throughout the EA, the BLM defers a full analysis to the APD stage. *See, e.g., EA* at 52 (“The use of any specific water source on a federally administered well requires review and analysis of the proposal through the NEPA process, which will be completed at the APD stage.”).

NEPA requires that agencies prepare an EIS before there is “any irreversible and irretrievable commitment of resources.” *Conner v. Burford*, 848 F.2d 1441, 1452 (9th Cir. 1988). The Ninth Circuit has held that issuing leases *without* a no surface occupancy (“NSO”) stipulation conveys a right to develop and is thus considered an irretrievable commitment of resources. *Id.* (“[U]nless surface-disturbing activities may be absolutely precluded, the government must complete an EIS before it makes an irretrievable commitment of resources by selling non-NSO leases.”). None of the parcels at issue have a NSO stipulation for the entire parcel. This means that the leases are irretrievable commitments of resources, and once BLM reaches the APD stage, the agency cannot include additional lease stipulations to stop drilling and other cumulative impacts. Thus, further analysis at the APD stage would be in many cases, too little, too late. The agency must complete a full NEPA analysis now.

H. The BLM Must Prepare an EIS.

Because the proposed lease sale poses significant impacts, the BLM must prepare an EIS for the lease sale.

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 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.” *Id.* § 1508.27(b)(2). There is no doubt the proposed action, which would allow for the use of fracking, impacts public health and safety. As discussed above, the use of fracking presents risks to human health and water due to air pollution and risks of contamination. Thus, the BLM must fully analyze and disclose the impacts of fracking in a future EIS.

A similar argument applies to the second and third intensity factors, which require, respectively, a look at the degree to which impacts are highly controversial and the degree to which impacts are highly uncertain or involve unique and unknown risks. Indeed, the situation here is directly similar to the situation in *Center for Biological Diversity v. U.S. Bureau of Land Management*, where the court held that the BLM’s “unreasonable lack of consideration of how fracking could impact development of the disputed parcels . . . unreasonably distort[ed] BLM’s assessment of at least three of the ‘intensity’ factors in its FONSI,” including the aforementioned factors. 937 F. Supp. 2d at 1157. Specifically, the court reasoned that fracking was highly controversial based on the possibility of significant environmental degradation, public outcry, and potential threats to health and safety. *Id.* at 1157–58. There is no doubt that similar reasoning applies here. Fracking presents a significant risk of contamination. For example, the Pavillion well contamination occurred within a related geological formation connected to the formation which stretches into Carbon County, Montana. Compare, EPA Draft Report, *Investigation of Ground Water Contamination Near Pavillion, Wyoming* 1 (Dec. 2011), https://www.epa.gov/sites/production/files/documents/EPA_ReportOnPavillion_Dec-8-2011.pdf, with USGS, *Subsurface Stratigraphic Cross Sections Showing Correlation of Cretaceous and Lower Tertiary Rocks in the Bighorn Basin, Wyoming and Montana* 2, 3 (2010), https://pubs.usgs.gov/dds/dds-069/dds-069-v/REPORTS/69_V_CH_6.pdf (both previously attached to Conservation Groups’ July 20, 2018 Scoping Comments as Exhibits 5.1 and 5.2).

Finally, because the March 2019 lease parcels are adjacent to parcels from previous lease sales, 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). The BLM must study the cumulative impacts of similar actions occurring within the same area.

I. BLM Has Failed to Consider the Impacts to Greater Sage-Grouse, Northern Long-Eared Bat, and Pallid Sturgeon

BLM must analyze in detail indirect and cumulative impacts from oil and gas leasing and development on the Greater Sage-Grouse and its habitat. Furthermore, under BLM’s own Greater Sage-Grouse RMP amendments, BLM’s amended RMPs require it to prioritize oil and

gas leasing outside of greater sage-grouse priority and general habitats. Virtually the entire proposed lease sale is within designated General Habitat Management Areas for greater sage-grouse, and numerous additional parcels fall within Priority Habitat Management Areas.

The indiscriminate leasing of over 100,000 acres consisting almost entirely of designated sage-grouse habitat, particularly when taken together with other recent, ongoing, and proposed leasing actions within Management Zone I for greater sage-grouse, violates the ARMPA's requirement to prioritize leasing outside of greater sage-grouse habitat.

As detailed in our previous comments, BLM's decision to lease parcels within the range of the Greater Sage-Grouse, including Priority Habitat Management Areas (PHMAs) and General Habitat Management Areas (GHMAs), will not conform to the Amended RMPs unless the leasing EIS fully evaluates site-specific impacts to Greater Sage-Grouse, and prioritizes leasing outside both PHMAs and GHMAs. BLM must consider, prior to determining to issue leases, whether it can "limit future surface disturbance and encourage new development in areas that would not conflict with GRSG," Rocky Mountain ROD at 1-25, by offering first, areas determined to be non-sage-grouse habitat, and only then consider areas of lower value habitat. Prior to leasing, BLM must prepare an EIS containing sufficient detailed, site-specific analysis to provide BLM and the public with sufficient information to permit a reasonable determination of whether the proposed leasing action could be limited to areas of either non-sage-grouse habitat or areas of lower value habitat.

In considering whether or not to make available for leasing additional sage-grouse habitats in the Billings FO and North Central Montana District, BLM failed to, as it must, assess the current state of sage-grouse populations in Management Zone 1, the individual populations and seasonal habitats that may be affected by the proposed leases, and the implications of development for local and regional grouse survival and recovery.

BLM also failed to analyze the cumulative range-wide effects of leasing Greater Sage-Grouse habitat. Review of BLM lease sale and sage-grouse habitat data reveals that, in Wyoming alone, between January 2017 and December 2018 alone, BLM has leased or offered for lease the over 2,604,000 acres of priority and general habitat management areas for greater sage-grouse. All of these sales suffer from the same flaw as this proposed action: they violate the prioritization requirements of the 2015 RMPs, fail to consider the cumulative effects of these leasing actions across sage-grouse range and fail to consider reasonable alternatives that do not lease PHMAs and GHMAs.

Such widespread new leasing of fluid minerals in Priority Habitats is a phenomenon that was not contemplated by either the ARMPAs, nor by the Fish and Wildlife Service in its decision that adequate regulatory measures exist so as to make the listing of the species under the Endangered Species Act "not warranted." *See* U.S. Fish and Wildlife Service, 12-Month Finding on a Petition To List Greater Sage-Grouse (*Centrocercus urophasianus*) as an Endangered or Threatened Species, 80 Fed. Reg. 59,858, 59,891 (Oct. 2, 2015) ("The Federal Plans prioritize the future leasing and development of nonrenewable-energy resources outside of sage-grouse habitats.")

Nor are limited NSO, siting and density limitations sufficient to avoid impacts when the cumulative effects of new grouse habitat leasing encompass hundreds of thousands of acres. No Surface Occupancy stipulations for PHMA or portions thereof do not eliminate surface impacts – they merely displace them. BLM must examine the cumulative effects of this displaced disturbance across the hundreds of thousands of acres of grouse habitat recently or currently under new lease. As discussed in our previous comments, widely accepted conservation biology methodologies exist that can provide BLM with means of conducting such a cumulative effects analysis.

BLM must also consider reasonable alternatives that do not lease PHMAs and GHMAs. The fact that leasing is one of the range of actions available under the ARMPAs does not relieve BLM of its obligation under NEPA to consider all reasonable alternatives. Reasonable alternatives in this instance plainly include consideration of an alternative that does not offer additional PHMAs or GHMAs for leasing at this time, consistent with the ARMPAs requirement to prioritize leasing outside of those habitats.

BLM also failed to consider impacts to the Northern Long-Eared Bat and Pallid Sturgeon. Because these species are listed as threatened pursuant to the Endangered Species Act, the BLM must adequately consider effects of the project on these species using the best available science. Compliance with the ESA may require consultation under Section 7 of the Act with the U.S. Fish and Wildlife Service about the impacts of this proposal on these species. Notably, compliance with the ESA is an important step, but it is not enough. Under NEPA, the BLM must also adequately consider the effects (direct, indirect, and cumulative) of the project on these species and alternatives that will protect these species.

IV. CONCLUSION

For the reasons stated above, we request that BLM defer offering all of the parcels under consideration, and that the agency develop an analysis of groundwater impacts that complies with NEPA.

Thank you for your consideration of these comments.

Sincerely,

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