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WESTERN ENVIRONMENTAL LAW CENTER

September 2, 2020

Sent electronically via BLM E-Planning Website and via FedEx (with exhibits)

Bureau of Land Management
Montana Dakotas State Office
Branch of Fluid Minerals
John Melhoff, State Director
Attn: Christine Cimiluca
5001 Southgate Drive
Billings, MT 59101

Re: Protest of EA for Montana/Dakotas September 22, 2020 Comp Sale 3160 (MT92200)

Dear Bureau of Land Management:

The Western Environmental Law Center ("WELC") and Earthjustice, along with WildEarth Guardians, the Sierra Club, Center for Biological Diversity, Western Watersheds Project, Waterkeeper Alliance, Montana Environmental Information Center, and Living Rivers & Colorado Riverkeeper, (together "Citizen Groups"), submit the following protest of the BLM Montana/Dakotas September, 2020 Oil and Gas Lease Sale ("Lease Sale") involving 38 parcels of Federal minerals within the Miles City Field Office, North Dakota Field office and within the administrative boundary of the Dakota Prairie Grasslands.

The names, mailing addresses, and telephone numbers for each organization filing this protest are listed below:

Western Environmental Law Center
120 Shelton McMurphey Blvd., Ste. 340
Eugene, Oregon 97401
(541) 485-2471

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

WildEarth Guardians
3789 Marshall St., Suite 8
Wheat Ridge, CO 80033
(406) 698-1489

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

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

Living Rivers
Colorado Riverkeeper
P.O. Box 466
Moab, UT 84532
(435) 259-1063

I, Melissa Hornbein, 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 area 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 12,000 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.

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, intend to continue to do so, and are particularly interested in protecting them from water-intensive energy development.

Montana Environmental Information Center is a nonprofit organization founded in 1973 with approximately 5,000 members and supporters throughout the United States and the State of Montana. MEIC is dedicated to the preservation and enhancement of the natural resources and natural environment of Montana and to the gathering and disseminating of information concerning the protection and preservation of the human environment through education of its members and the general public concerning their rights and obligations under local, state, and federal environmental protection laws and regulations. MEIC is also dedicated to assuring that federal officials comply with and fully uphold the laws of the United States that are designed to protect the environment from pollution, including GHG pollution.

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.

II. STATEMENT OF REASONS IN SUPPORT OF CONSERVATION GROUPS' PROTEST ON THE MONTANA-DAKOTA SEPTEMBER 2020 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.

After the deadline for submission of comments on this lease sale, the Council on Environmental Quality ("CEQ") issued a final rule ("Final Rule") on July 16, 2020, rewriting the entirety of its 1978 National Environmental Policy Act ("NEPA") implementing regulations. The Final Rule does not become effective until September 14, 2020, and as such, BLM must continue to apply CEQ's NEPA implementing regulations as currently codified, without regard to the Final Rule, as the NEPA analysis for this action was completed under the existing rules. 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 either an Environmental Impact Statement ("EIS") or Environmental Assessment ("EA") on the Final Rule, and by failing to evaluate alternatives to, and the full direct, indirect, and cumulative impacts of, the Final Rule;

- 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.

Below, Citizen Groups detail major flaws under NEPA and its current regulations that remain in the Environmental Assessment and Finding of No Significant Impact for the Montana/Dakotas September 2020 Lease sale, and that were not resolved by BLM's responses to Citizen Groups' comments:

- BLM failed to analyze an adequate range of alternatives for the proposed action.
- BLM failed to fully analyze GHG emissions, including the effects of cumulative emissions and "lifecycle" emissions, and failed to analyze the social costs of these reasonably foreseeable emissions, especially in light of rapidly shrinking global carbon budgets.
- BLM failed to adequately analyze air impacts.
- BLM failed to adequately analyze potential impacts to human health.
- BLM failed to fully assess the impacts to groundwater from hydraulic fracturing and horizontal drilling.
- BLM failed to prepare an EIS.
- BLM is in violation of the Endangered Species Act.

A. The BLM Must Analyze an Adequate Range of Alternatives, Including a "No-Leasing" Alternative.

"[T]he heart" of an environmental analysis under NEPA is the analysis of alternatives to the proposed project, and agencies must evaluate all reasonable alternatives to a proposed action." *Colorado Environmental Coalition*, 185 F.3d at 1174 (quoting 40 C.F.R. § 1502.14). An agency must gather "information sufficient to permit a reasoned choice of alternatives as far as environmental aspects are concerned." *Greater Yellowstone*, 359 F.3d at 1277 (citing *Colorado Environmental Coalition*, 185 F.3d at 1174); *see also Holy Cross Wilderness Fund v. Madigan*, 960 F.2d 1515, 1528 (10th Cir. 1992).

Here, BLM considers two alternatives: the no action alternative and the proposed action alternative. Incumbent on the BLM in any NEPA process is a robust analysis of alternatives to the proposed action. Consideration of reasonable alternatives is necessary to ensure that the agency has before it and considers all possible approaches to, and potential environmental impacts of, a particular project. NEPA's alternatives requirement, therefore, ensures that the "most intelligent, optimally beneficial decision will ultimately be made." *Calvert Cliffs' Coordinating Comm., Inc. v. U.S. Atomic Energy Comm'n,* 449 F.2d 1109, 1114 (D.C. Cir. 1971).

The BLM must consider alternatives that address the likelihood that industry is only seeking the proposed leases in order to stockpile reserves and not actually produce oil and gas. This is particularly important given current circumstances in which the COVID-19 pandemic has severely impacted the already depressed oil industry. We request BLM give detailed consideration to the following alternative actions:

- An alternative that imposes a minimum bonus bid higher than $2.00 per acre. Under 43 C.F.R. § 3120.1-2(c), BLM is prohibited from accepting a competitive oil and gas leasing bid that is less than $2.00 per acre. However, there is nothing that prohibits the BLM from establishing a minimum bid that is higher than $2.00 per acre, and BLM's response to comments indicating the contrary is incorrect. BLM is not prohibited by statute from setting a higher minimum bid, it is merely estopped accepting less. Here, we request the agency consider an alternative that requires a minimum bonus bid higher than $2.00 per acre as a condition of selling the lease parcels. This will help to ensure that only serious producers will purchase the leases and will help to prevent companies from stockpiling federal oil and gas leases as a means to increase their assets and enhance their own financial bottom line.

- An alternative that defers offering the proposed lease parcels for sale until at least 50% of all leased federal oil and gas acres in Montana are put into production. This could happen as a result of leases expiring before being put into production, by industry relinquishing leases that have not produced for many years, or by leases being put into production by companies. This alternative would help to incentivize industry to start producing and generating revenue or to give up their ownership of federal oil and gas leases. This alternative would be a reasonable measure for the BLM to impose as a means for protecting the public interest and maximizing revenue for the American public where leases have already been issued.

We also request that the BLM consider the following alternatives:

(1) An alternative that analyzes and applies best available methane reduction technologies as a stipulation attached to all parcels in the lease sale.

The BLM should include in its analysis an alternative that applies a stipulation that mandates the use of best available methane reduction technologies to parcels. Recent research has demonstrated that the use of ten technically proven and commercially available methane emissions reduction technologies can together capture more than 80 percent of the methane currently going to waste across the oil and gas sector's operations.[1] These technologies include:

1. **Green Completions** to capture oil and gas well emissions;
2. **Plunger Lift Systems** or other well deliquification methods to mitigate gas well emissions;

[1] *Leaking Profits*, The U.S. Oil and Gas Industry Can Reduce Pollution, Conserve Resources, and Make Money by Preventing Methane Waste, Harvey et al. 2012 (Attached as Exhibit 1).

3. **Tri-Ethylene Glycol (TEG) Dehydrator Emission Controls** to capture emissions from dehydrators;
4. **Desiccant Dehydrators** to capture emissions from dehydrators;
5. **Dry Seal Systems** to reduce emissions from centrifugal compressor seals;
6. **Improved Compressor Maintenance** to reduce emissions from reciprocating compressors;
7. **Low-Bleed or No-Bleed Pneumatic Controllers** used to reduce emissions from control devices;
8. **Pipeline Maintenance and Repair** to reduce emissions from pipelines;
9. **Vapor Recovery Units** used to reduce emissions from storage tanks; and
10. **Leak Monitoring and Repair** to control fugitive emissions from valves, flanges, seals, connections and other equipment.

Id. at 5. In addition to reducing emissions and lost tax dollars, these "[m]ethane control technologies provide economic, health, safety, and environmental benefits for both operators and the public.

These control technologies reduce not only greenhouse gas emissions, but also potentially explosive vapors, hazardous air pollutants, and volatile organic compounds (VOC), improving worker safety and limiting corporate liability." *Id.* Accordingly, the BLM must rigorously explore and objectively evaluate an alternative that requires the implementation of these 10 technologies through stipulations that attach to all lease parcels. It is not enough, as BLM suggests in its response to comments (Appendix H) to defer all consideration of methane reduction to the APD stage. Such measures are most effectively implemented at the leasing stage, putting potential bidders and developers on notice of what will be required for methane control. BLM's response to Citizen Group's comments states only that LN 14-18 gives the owner or operator of any leased parcel notice that prior to the APD approval:

> [A]dditional air resource analyses *may* be required in order to comply with the NEPA, FLPMA, and/or other applicable laws and regulations. Analyses *may* include equipment and operations information, emission inventory development, dispersion modeling or photochemical grid modeling for air quality and/or air quality related value impact analysis, and/or emission control determinations. These analyses *may* result in the imposition of additional project-specific control measures to protect air resources.

Appendix H to Final EA at 23 (emphasis added). Nothing in LN 14-18 requires *any* of the mitigation measures described above to be implemented at the drilling stage, and there is nothing, therefore, ensuring that the potential for methane leakage will be reduced.

(2) An alternative that applies best management practices for oil and gas development as stipulations that attach to all lease parcels.

The BLM's NEPA process should include analysis of an alternative that applies existing and new BMPs as mandatory stipulations applied to all oil and gas development proposed as part

of the Lease Sale. For example, The Intermountain Oil and Gas BMP Project, which is maintained by the Natural Resources Law Center at the University of Colorado Law School, provides supplemental information, including construction specifications, illustrations, pictures, maps, monitoring reports, and evaluations of potential strategies for mitigating the impacts of development. *See* Intermountain Oil and Gas BMP Project, available at: http://www.oilandgasbmps.org/ (last visited September 2, 2020, site is no longer being updated but is current through December 31, 2019). Among other resources, the Intermountain Oil and Gas BMP Project maintains a database that addresses a variety of resources and issues, including:

- Air Quality and Emissions
- Aquatic and Riparian Values
- Community
- Cultural/Historic
- Grazing and Agriculture
- Human Health and Safety
- Land Surface Disturbance
- Noise
- Soils (Conservation, Pollution, Reclamation)
- Vegetation
- Visual Aesthetics
- Water Quality and Pollution
- Water Quality and Rights
- Wildlife

Each individual resource contains hundreds of additional BMPs aimed at developing oil and gas reserves in a manner that protects the many human and environmental resources at stake. The BLM should evaluate these BMPs thoroughly, including their efficacy, in the context of a hard look at impacts, and include stipulations mandating use of these BMPs in its alternatives analysis. BLM has the ability to and should be considering these BMPs at the leasing stage and not merely the APD stage. BLM's response to Citizen Group's comments to this effect is that it "applied all applicable stipulations" to the lease parcels. BLM does not address how these stipulations would compare with the BMPs outlined above or why they are unable to consider an alternative applying BMPs at the leasing stage.

(3) An Alternative that Protects Groundwater.

NEPA unambiguously requires BLM to consider a reasonable range of alternatives. *See, e.g.*, *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"); *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); *Colorado Envtl. 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); *Wilderness Soc., Ctr. For Native Ecosystems*

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).

Here, BLM must consider alternatives that would protect usable groundwater. *See WildEarth Guardians*, 2020 WL 2104760, at *8. Specifically, BLM should consider not leasing parcels within areas where there is less than 2,000 feet of vertical separation between the oil and gas formations likely to be targeted and any groundwater aquifer with 10,000 ppm TDS or less. BLM should also analyze an alternative whereby parcels would not be leased in areas overlying usable groundwater and surface water, and an alternative that includes other measures to ensure that all usable groundwater zones are protected. This might involve pre-leasing groundwater testing and adding a lease stipulation or lease notice requiring specified casing and cementing depths. The alternative could also require placement of cement outside production casing at least 100 feet above the uppermost interval of production, eliminate parcels in areas that are already heavily developed, and/or require monitoring for frack hits. Alternatively or additionally, BLM should consider requiring a lease stipulation or lease notice requiring the lessee to perform groundwater testing prior to drilling to identify all usable water, and consultation with the U.S. Geological Survey and other agencies to identify those waters with up to 10,000 ppm TDS.

(4) No-Leasing and Reduced-Leasing Alternative

The BLM has broad discretion not to lease public lands for minerals development, and has the responsibility to use this discretion to safeguard environmental and human health resources and values in light of climate change. *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). The BLM must consider a "no leasing" alternative in light of a rapidly shrinking global carbon budget and timeframe to avert catastrophic global warming.

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"[2] under the Paris Agreement.[3] The Agreement recognized the 1.5°C climate target because 2°C of warming is no longer considered adequate for avoiding catastrophic climate impacts and runaway climate change.[4]

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[2] 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/l09.pdf ("Paris Agreement") (Attached as exhibit 2).

[3] 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 Parties consented to the Paris Agreement committing its parties to act so as to avoid dangerous climate change.

[4] 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 (Exhibit 2).

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 necessary. Specifically, research indicates that g*lobal* fossil fuel CO2 emissions must *end entirely* by mid-century for a reasonable likelihood of limiting warming to 1.5° or 2°C.[5] 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.[6] 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.[7] 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 CO_2 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. BLM's response to comments (Appendix H), indicates (1), that it lacks statutory authority to consider a no leasing alternative and (2), that the no-action alternative is functionally equivalent to a no-leasing alternative. Leaving aside the mutual inconsistency of these arguments, both are incorrect. First, BLM has considerable authority under both FLPMA and the MLA to choose not to lease a given set of parcels. *See, e.g. Udall* and *Rocky Mountain Oil & Gas Ass'n*, supra. Second, a no-leasing alternative is *not* the functional equivalent of the no-action alternative; the key difference is that the no-leasing alternative is specifically designed to address the urgent need to transition away from fossil fuels by proactively planning to reduce leasing of public lands for this purpose. BLM's assertion in its response to comments that not leasing the subject parcels would not lessen demand for oil and gas is hyperbolic. Much of the difficulty of transitioning away from fossil fuels-a process that is already underway, is related to stranded assets of the oil and gas sector. Leasing these lands for future production only increases that problem.

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[5] IPCC, 2018: Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]. (Attached as Exhibit 3).

[6] *See* Climate Action Tracker, USA, http://climateactiontracker.org/countries/usa at Rating figure showing U.S. emissions versus year (last visited September 2, 2020).

[7] 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 (Attached as Exhibit 4).

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 production and fossil fuel dependent infrastructure.[8] 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.

B. The BLM Must Fully Analyze GHG Emissions, Including Cumulative Emissions and "Lifecycle" Emissions, and Must Analyze the Social Costs of These Reasonably Foreseeable Emissions.

In the EA, BLM quantifies cumulative GHG emissions from existing wells and foreseeable well development in Montana and North Dakota, regionally, and nationally, and has quantified emissions from the extraction and combustion of fossil fuels produced on federal lands in the United States. Appendix E to EA at 12-14. While this is a start, the hard look required by NEPA does not end with quantification, and BLM's assertion that GHG emissions estimates "are presented for disclosure purposes *and as a proxy for impacts from the lease sale*" (Appendix E to EA at 20), does not satisfy NEPA's core requirements regarding impacts analysis. 40 C.F.R. §§ 1508.8(b), 1502.16(a)-(b). BLM's response to Citizen Groups Comments does not address this issue. (Appendix H at 34). BLM must take the next step by including an analysis of what these numbers mean in the context of the global warming and how this individually small but additively significant lease sale will further contribute to climate change in the context of other actions. *See* 40 C.F.R § 1508.7 ("Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.") As described in more detail below, BLM must also disclose the actual environmental effects of those cumulative emissions using the social cost of carbon protocol and/or carbon budgeting.

Oil and gas leasing on public lands is a major contributor to global warming in the United States. According to a recent report by the U.S. Geological Survey, fossil fuels drawn from public lands contribute nearly a quarter of all greenhouse gas emissions in the United States, including through fugitive emissions and combustion. Considering only one lease sale at a time allows unintended climate impacts to accumulate. *See Kern v. BLM*, 284 F. 3d 1062, 1078 (9th Cir. 2002) (the purpose of considering and analyzing cumulative effects under NEPA is to avoid "the tyranny of small decisions.") We invite BLM to take a broader perspective that will empower the agency to promote resilience, identify and manage disturbance, and adapt to an uncertain future through appropriate management of our public lands. Increasingly, courts are requiring BLM to take this broader view. *See San Juan Citizens Alliance v. Bureau of Land Mgmt.*, No. 16-cv-0376-MCA-JHR, 2018 WL 2994406, at *14 (recognizing that conclusory statements regarding cumulative climate impacts are "insufficient to comply with Section 1508.7."); *WildEarth Guardians v. Zinke*, No. CV 16-1724 (RC), 2019 WL 1273181, at *22 (D.D.C. Mar. 19, 2019) (NEPA "require[s] that BLM quantify the emissions from each leasing decision—past, present, or reasonably foreseeable—and compare those emissions to regional and

[8] *Id.* at 30.

national emissions, setting forth with reasonable specificity the cumulative effects of the leasing decision at issue. *To the extent other BLM actions in the region—such as other lease sales—are reasonably foreseeable when an EA is issued, BLM must discuss them as well.*") Here, while BLM has undoubtedly improved its quantification efforts, it must analyze the collective impact of the multiple lease sales in the region in the recent past and foreseeable future. BLM did not address this point in response to Citizen Groups' Comments. BLM must also analyze the impacts of those emissions on climate change, including through use of the social cost of carbon protocol and carbon budgeting.

Additionally, BLM's environmental review must include not only emissions from drilling operations and combustion, but the full "lifecycle" emissions from the transportation, refining, processing, leakage, and combustion of the oil and gas produced. While BLM does include a cursory analysis of indirect and downstream emissions, it must, once again, deepen its analysis of context and impact in order to comply with NEPA. 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). Tools exist that allow agencies to conduct a fine-tuned lifecycle analysis. *See* Michael Burger & Jessica Wentz, *Downstream and Upstream Greenhouse Gas Emissions: The Proper Scope of NEPA Review*, 41 Harv. Envtl. L. Rev. 109, 183 (2017) (Appendix). While BLM has included a rudimentary quantification and analysis of downstream or "lifecycle" emissions, (*see* Appendix E to EA at 18), neither the analysis nor the quantification of these emissions breaks them down in a manner that allows the reader to determine what specific sources of emissions are included or how those sources were determined.

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.[9] 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

[9] *See* The potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels, Center for Biological Diversity and Friends of the Earth (2015), prepared by Ecoshift Consulting and *available at:* https://www.biologicaldiversity.org/publications/papers/Potential-Greenhouse-Gas-Emissions-U-S-Federal-Fossil-Fuels.pdf (Last visited September 2, 2020) (Attached as Exhibit 5).

the proposed agency action").[10] Further, BLM must quantify the total lifetime emissions from the leases—not simply annual emissions rates. *Cf.* Appendix E to EA at 18 (quantifying only rate of indirect emissions). As BLM recognizes, the impacts of climate change result from "cumulative emissions, not the emissions profile." *Id.* at 36. That is, the impacts of climate change are a product of total global GHG concentrations. To assess the actual impacts of the leases on total GHG concentrations, BLM must disclose the total lifetime GHG emissions, rather than simply emission rates. BLM argues that it is unable to use a lifecycle analysis tool because "it is unknown what product transportation, processing, or refining methods a lessee will use." (Appendix H at 37). It is true that BLM does not dictate the end use of the oil and gas produced under any given lease. However, this doesn't stop BLM from estimating potential emissions "using assumptions about the end use." There is nothing to prevent BLM from making similar assumptions to analyze lifecycle emissions.

Additionally, the BLM must ensure that it contextualizes emissions, such as through use of 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,[11] or through the use of carbon budgeting, both described below. NEPA requires a more searching analysis of a lease sale's climate implications than merely disclosing the amount of pollution. Rather, BLM must examine the "ecological[,]… economic, [and] social" impacts of those emissions, including an assessment of their "significance." 40 C.F.R. §§ 1508.8(b), 1502.16(a)-(b). The U.S. Supreme Court has called the disclosure of impacts the "key requirement of NEPA," and held that agencies must "consider and disclose the *actual environmental effects*" of a proposed action in a way that "brings those effects to bear on [the agency's] decisions." *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 96 (1983) (emphasis added). Contrary to BLM's assertion, the tons of greenhouse gases emitted by a proposed action are not the "actual environmental effects" under NEPA. Rather, the actual environmental effects are the climate impacts caused by those emissions, such as property loss, changes in energy demand, impacts to agriculture, forestry, and fisheries, human health impacts, changes in fresh water availability, ecosystem service impacts, impacts to outdoor recreation, and catastrophic events. These impacts should both be identified and monetized using the social cost of carbon calculations developed by the Interagency Working Group.[12] According to a

[10] Although the Trump Administration has since revoked the CEQ's August 2016 Climate Guidance, the BLM remains bound by the CEQ's NEPA regulations and existing case law applying the Guidance. See *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017); *San Juan Citizens All. V. U.S. Bureau of Land Mgmt.*, 326 F.Supp.3d 1227, 1243 at n. 5 (D.N.M. 2018).

[11] Interagency Working Group on the Social Cost of Carbon, United States Government, Technical Support Document: Technical Update on the Social Cost of Carbon for Regulatory Impact Analysis—Under Executive Order 12866 (August 2016) (Attached as Exhibit 6).

[12] Numerous other analyses identify other actual environmental effects of climate change, including air quality mortality, extreme temperature mortality, lost labor productivity, harmful algal blooms, spread of west-nile virus, damage to roads and other infrastructure, effects on urban drainage, damage to coastal property, electricity demand and supply effects, water supply and quality effects, inland flooding, lost winter recreation, effects on agriculture and fish, lost ecosystem services from coral reefs, and wildfires. *See* EPA, *Multi-Model Framework for*

simple calculation of just the *indirect* emissions associated with the September 2020 sale (91,668 Metric tons CO2eq/year) multiplied by the IWG's central value for the social cost of carbon of $42, at least **$38 million** in climate change costs over the ten year lease term are at stake—a calculation which does not account for lifecycle emissions or the potential for extending the standard 10-year lease term. In its response to Citizen Groups' comments, BLM dismissed the social cost of carbon as "an economic metric meant to monetize the net benefits associated with an increase in carbon dioxide emissions. As such, social cost of carbon estimates are developed through an economic cost-benefit analysis." (Appendix H at 42). BLM goes on to observe that the Social Cost of Carbon is only one way that an agency can "examine climate consequences from GHG emissions" and that it has chosen to "discuss climate change impacts at several scales." *Id.* at 43. BLM's quantification of GHG emissions at the local, regional, and national scales in no way amounts to a "discussion" much less an "analysis" of climate change impacts. Those impacts are not the tons of GHG emitted from a particular project, but, as noted above, their "actual environmental effects." The Social Cost of Carbon is a tool that quantifies these actual impacts. If BLM is going to decline to use that tool, it must employ another way that goes beyond mere quantification of GHGs emitted.

Not only does BLM's failure to use the social cost of carbon protocol violate NEPA's hard look mandate, but because the agency includes an extensive analysis of the economic benefits from leasing, see EA at 54-57, it is engaging in precisely the type of cost-benefit analysis it says is not required under NEPA and uses as justification to eschew the Social Cost of Carbon. 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). Agencies may not present unbalanced or misleading economic analyses. *Id*. at 1182; *accord Johnston v. Davis*, 698 F.2d 1088, 1094–95 (10th Cir. 1983) (disapproving of "misleading" statements resulting in "an unreasonable comparison of alternatives"); *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 446 (4th Cir. 1996) ("For an EIS to serve these functions" of taking a hard look and allowing the public to play a role in decisionmaking, "it is essential that the EIS not be based on misleading economic assumptions"); *see also Sierra Club v. Sigler*, 695 F.2d 957, 979 (5th Cir. 1983) (holding that an agency's "skewed cost-benefit analysis" was "deficient under NEPA"); *see generally Bus. Roundtable v. SEC*, 647 F.3d 1144, 1148–49 (D.C. Cir. 2011) (criticizing an agency for "inconsistently and opportunistically fram[ing] the costs and benefits of the rule" and for "fail[ing] adequately to quantify the certain costs or to explain why those costs could not be quantified").

By refusing to use the only available method to give climate impacts "appropriate consideration in decisionmaking along with economic and technical considerations." 42 U.S.C. § 4332(2)(B), BLM violated the express provisions of NEPA. This failure is particularly egregious in light of BLM's extensive discussion about the economic benefits of the lease sales.

Quantitative Sectoral Impacts Analysis: A Technical Report for the Fourth National Climate Assessment (2017) (attached as Exhibit 7); U.S. Global Change Research Program, *Climate Science Special Report: Fourth National Climate Assessment* (2017) (attached as Exhibit 8); EPA, *Climate Change in the United States: Benefits of Global Action* (2015) (attached as Exhibit 9); Union of Concerned Scientists, *Underwater: Rising Seas, Chronic Floods, and the Implications for U.S. Coastal Real Estate* (2018) (attached at Exhibit 10).

Draft EA at 54-57. This one-sided analysis suggests that the proposed leases are economically beneficial; when given an apples-to-apples comparison using the social cost of carbon, the project would likely be a net loss. *High Country Conservation Advocates*, 52 F. Supp. 3d at 1182. Moreover, contrary to NEPA's mandate to analyze the actual effects of GHG emissions, the EA merely tallies the total emissions and compares them to other emissions, rather than discussing the actual effects, which are captured by the SCC. *Ctr. for Biological Diversity*, 538 F.3d 1216.

BLM offers a host of tired excuses for not using the social cost of carbon, but none is availing. First, BLM says the analysis would be unbalanced without quantifying benefits—but the EA did just this by detailing the revenue that would be generated by the lease sales and royalties (EA at 54-57). Having done this, BLM is obliged to monetize the environmental costs, per 42 U.S.C. 4332(2)(B). Importantly, even in the absence of a cost-benefit analysis, monetizing costs can still be valuable.[13] BLM also contends that it does not have to use the social cost of carbon because its lease sale is not a rulemaking. This is not a valid excuse 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 at 1182.[14] The 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.[15]

BLM must also assess how the indirect and foreseeable GHG emissions from its fossil fuel program will affect global carbon budgets. The science of carbon budgeting is rapidly evolving. Recent reports demonstrate the evident usefulness of carbon budgeting in assessing the significance of future emissions. For example, the October 2018 IPCC *Global Warming of 1.5°C* special report (*See* Exhibit 3), provided a revised carbon budget for a 66 percent probability of limiting warming to 1.5°C, estimated at 420 $GtCO_2$ and 570 $GtCO_2$ depending on the temperature dataset used, from January 2018 onwards.[16] Compared with the average global emissions rate of 36 $GtCO_2$ per year noted above for 2012-2014, the IPCC explained the global emissions rate has increased to 42 $GtCO_2$ per year.[17] 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.[18] More troubling, the USGCRP explains that considering non-CO_2 GHG emissions further shrinks the global carbon budget.[19] When these warming influences are included, the remaining carbon budget for limiting temperature increases to 1.5 degrees C is only 30 GtC, which at current rates will be exhausted in "the next few years" and may in fact already be exhausted.[20] In effect, we're burning through our carbon budget at a

[13] *See* EDF et al., Comments on Lila Canyon Mine at 14-15 (June 8, 2020) (describing break even analysis) (Attached as Exhibit 11).
[14] *See also* Exhibit 11 at 12.
[15] *Id*. at 1-34.
[16] *See* IPCC, *Fifth Assessment Report Climate Change 2013* at 8-58 (attached as Exhibit 12).
[17] *Id.*
[18] *Id.*
[19] USGCRP, Fourth Climate Assessment Vol. I at 396 (2018)(attached as Exhibit 8).
[20] *Id.* at 396-97.

rapid pace and thereby limiting the flexibility future generations may require or desire as they intensify our world's transition away from fossil fuels.

To put these global carbon budgets in the specific context of domestic U.S. emissions and the U.S.' obligation to reduce emissions, the U.S. is the world's largest historic emitter of greenhouse gas pollution, responsible for 26 percent of cumulative global CO_2 emissions since 1870, and is currently the world's second highest emitter on an annual and per capita basis.[21] And, federal fossil fuel production contributed to approximately 25% all U.S. greenhouse gas emissions.[22] Regardless, to conform to a 1.5°C target, the estimated U.S. carbon budget is 25 $GtCO_2eq$ to 57 $GtCO_2eq$ on average,[23] depending on the sharing principles used to apportion the global budget across countries.[24] The estimated U.S. carbon budget consistent with limiting temperature rise to 2°C ranges from 34 $GtCO_2$ to 123 $GtCO_2$,[25] 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 and, indeed, may already be spent.

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[21] Global Carbon Atlas, CO2 Emissions, "Time Series" & "Chart View," http://www.globalcarbonatlas.org/en/CO2-emissions (last visited September 2, 2020).
[22] *See* Exhibit 5 at 7.
[23] Robiou du Pont, Yann et al., *Equitable mitigation to achieve the Paris Agreement goals, 7 Nature Climate Change* 38, Supplemental Tables 1 and 2 (2017). Quantities measured in $GtCO_2eq$ include the mass emissions from CO_2 as well as the other well-mixed greenhouse gases (CO_2,methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and SF_6) converted into CO_2-equivalent values, while quantities measured in $GtCO_2$ refer to mass emissions of just CO_2 itself.
[24] *Id.* (averaged across IPCC sharing principles to estimate the U.S. carbon budget from 2010 to 2100 for a 50 percent chance of returning global average temperature rise to 1.5°C by 2100, consistent with the Paris Agreement's "well below 2°C" target, and based on a cost-optimal model. The study estimated the U.S. carbon budget consistent with a 1.5°C target at 25 $GtCO_2eq$ by averaging across four equity principles: capability (83 $GtCO_2eq$), equal per capita (118 $GtCO_2eq$), greenhouse development rights (-69 $GtCO_2eq$), and equal cumulative per capita (-32 $GtCO_2eq$). The study estimated the U.S. budget at 57 $GtCO_2eq$ when averaging across five sharing principles, adding the constant emissions ratio (186 $GtCO_2eq$) 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.")
[25] *Id.* (estimated the U.S. carbon budget for a 66 percent probability of keeping warming below 2°C at 60 $GtCO_2eq$ based on four equity principles (capability, equal per capita, greenhouse development rights, equal cumulative per capita), and at 104 $GtCO_2eq$ based on five principles (adding in constant emissions ratio, but see footnote above)).

As noted above, Oil Change International recently reaffirmed this conclusion in a report released in January 2019.[26] Specifically, it found that using existing fossil fuel reserves would again push the world far beyond warming of 1.5°C and 2°C.[27] The report also found that:

- Between now and 2030, the United States is on track to account for 60 percent of world growth in oil and gas production, expanding extraction at least four times more than any other country. This is the time period over which climate scientists say global carbon dioxide (CO2) emissions should be roughly halved to stay in line with the 1.5°C target in the Paris Agreement.
- Between 2018 and 2050, the United States is set to unleash the world's largest burst of CO2 emissions from new oil and gas development (Figure ES-2). U.S. drilling into new oil and gas reserves – primarily shale – could unlock 120 billion metric tons of CO2 emissions, which is equivalent to the lifetime CO2 emissions of nearly 1,000 coal-fired power plants.
- If not curtailed, U.S. oil and gas expansion will impede the rest of the world's ability to manage a climate-safe, equitable decline of oil and gas production. We find that, under an illustrative 1.5°C pathway for oil and gas taken from the Intergovernmental Panel on Climate Change (IPCC), U.S. production would exhaust nearly 50 percent of the world's total allowance for oil and gas by 2030 and exhaust more than 90 percent by 2050.
- Nearly 60 percent of the 120 billion tons of CO2 emissions unlocked by new U.S. oil and gas drilling from 2018 to 2050 is set to come from the Permian and Appalachian Basins (Figure ES-3).
- The CO2 pollution enabled by oil and gas production in the Permian Basin from 2018 through 2050 could exhaust close to 10 percent of the entire world's carbon budget for staying within 1.5°C of warming. By its projected peak year of production, 2029, New Mexico's Permian Basin could see nearly as much oil extraction as Saudi Arabia does today.

Climate science is ever evolving and extremely relevant to BLM's fossil fuel planning, leasing, and development decisions. By not accounting for the best available science, BLM fails to provide a full picture of climate change, contrary to the requirements of NEPA. Although BLM's EA discusses its decision not to use SCC, it ignores altogether carbon budgeting as such a measure.

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

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[26] Kelly Trout & Lorne Stockman, *Drilling Towards Disaster: Why U.S. Oil and Gas Expansion is Incompatible with Climate Limits* (attached as Exhibit 13); *see also* Peter Erickson et al., *Principles for aligning U.S. fossil fuel extraction with climate limit*, Stockholm Environmental Institute (2019), https://www.sei.org/wp-content/uploads/2019/02/principles-for-aligning-fossil-fuel-extraction-w-climate-limits.pdf (articulating three principles to guide the U.S.' impending transition away from fossil fuels) (attached as Exhibit 14).

[27] Trout & Stockman, at 11 (Exhibit 13).

assess how BLM's actions are contributing to the global climate crisis, and discloses the significance of emissions, as NEPA requires.

To assess the direct, indirect, and cumulative impacts of GHG emissions from its leases and its leasing program, BLM must disclose baseline global GHG emission concentrations and identify the level of GHG concentrations that are considered safe and finally how the reasonably foreseeable emissions from its activities will affect these emission levels. This is critical because concentrations are reaching dangerously high levels—417 ppm.[28] The best science indicates that current GHG emission concentrations cannot be considered "safe"—safe levels would require reducing global concentrations to 350 ppm.[29] This baseline analysis is necessary for any rational discussion of GHG emissions. *See ONDA v. Rose*, 921 F.3d 1185 (9th Cir. 2019). Further, BLM must recognize globally established and federally ratified warming thresholds of 2.0 and 1.5 degrees C and must analyze how its actions are consistent with these limitations. 40 C.F.R. § 1502.16(c). Otherwise, BLM's analysis is simply a jumble of numbers without any meaning.

C. The BLM Must Take a Hard Look at Air Impacts.

To comply with NEPA's requirement to take a hard look at cumulative effects, BLM should consider the cumulative effects of climate change on air quality, such as through consideration of the effect of increased forest fire, the lease sale, and other sources in and around the proposed development *together*.

While BLM had taken the initial necessary step of providing background monitored concentrations of CAPS, it is required by NEPA's cumulative effects mandate to go further. It must explain why existing concentrations of CAPS, especially where they approach the NAAQS threshold, will not exceed that threshold through development of the parcels offered for lease and other potential sources of air pollution in the project area. For example, Ozone's highest percentage across all five monitoring stations is never less than 83%, and its lowest percentage across all sites is a single value at 79% - the remaining values are all at or above 80%. EA at 36-39.

In light of these existing concentrations, it is particularly troubling that BLM fails to analyze ozone impacts of the lease sale, beyond quantifying estimated direct air pollutant emissions from well development and production. BLM also does not analyze the health effects of increased ozone caused by the lease sale. Ozone has long been recognized to cause adverse health effects. Exposure to ozone can cause or exacerbate respiratory health problems—including shortness of breath, asthma, chest pain and coughing—can decrease lung function, and can even lead to long-term lung damage. *See also* EPA's National Ambient Air Quality Standards for Particulates and Ozone, 62 FR 38,856 (July 18, 1997). Short-term exposure to ozone causes multiple negative respiratory effects, from inflammation of airways to more serious respiratory effects that can lead to use of medication, absences from school and work, hospital

[28] *See, e.g.*, https://www.theweathernetwork.com/ca/news/article/carbon-dioxide-at-mauna-loa-reaches-new-record-high-at-417-ppm.

[29] IPCC, 1.5 Degree Warming Report, TS-23 (2018) (Attached as Exhibit 3); Hansen et al., Young People's Burden, Earth System Dynamics (2017) (Attached as exhibit 15).

admission, emergency room visits, and chronic obstructive pulmonary disease ("COPD"). According to a recent report by the National Research Council ("NRC"), short-term exposure to current levels of ozone in many areas is likely to contribute to premature deaths.[30] As described in more detail below, even ozone concentrations as low as 60 ppb can be harmful to human health. Long-term exposure to elevated levels of ozone results in numerous negative harmful effects, such as permanent lung damage and abnormal lung development in children. Long-term exposure may also increase risk of death from respiratory problems. Short- and long-term exposure to elevated levels of ozone can also harm people's hearts and cardiovascular systems. *See* 79 Fed. Reg. 75234-311.

In 2015, EPA published a final rule to revise the NAAQS for ozone to 70 parts per billion (ppb) from 75 ppb. National Ambient Air Quality Standards for Ozone, 80 Fed. Reg. 65292 (Oct. 26, 2015). This decision was driven by significant recent scientific evidence that the standard of 75 ppb was not adequately protecting public health. *Id.* at 136. In fact, recent studies have documented decreased lung functioning and airway inflammation in young, healthy adults at ozone concentrations as low as 60 ppb. *Id.* at 146.

Additionally, climate change is likely to worsen ozone pollution, offsetting the improvements in air quality and public health that would be expected from reductions in emissions of ozone precursors. As described by the EPA in its recent ozone rulemaking:

> In addition to being affected by changing emissions, future O_3 concentrations may also be affected by climate change. Modeling studies in the EPA's Interim Assessment (U.S. EPA, 2009a) that are cited in support of the 2009 Endangerment Finding under CAA section 202(a) (74 FR 66496, Dec. 15, 2009) as well as a recent assessment of potential climate change impacts (Fann et al., 2015) project that climate change may lead to future increases in summer O_3 concentrations across the contiguous U.S. While the projected impact is not uniform, climate change has the potential to increase average summertime O_3 concentrations by as much as 1-5 ppb by 2030, if greenhouse gas emissions are not mitigated. Increases in temperature are expected to be the principal factor in driving any O_3 increases, although increases in stagnation frequency may also contribute (Jacob and Winner, 2009). If unchecked, climate change has the potential to offset some of the improvements in O_3 air quality, and therefore some of the improvements in public health, that are expected from reductions in emissions of O_3 precursors.

80 Fed. Reg. 65292, 65300 (October 26, 2015). One example of climate change impacts that is already occurring is an increase wildfire severity and extent, which, in turn is a source of O_3 precursors. *Id.* at 65371. Similarly, BLM should consider the impact of the Lease Sale on

[30] National Research Council, *Link Between Ozone Air Pollution and Premature Death Confirmed,* (April 2008), available at: http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=12198 (last visited September 2, 2020).

erosion and sedimentation in light of the additive impacts caused by global warming.[31] Here, BLM must consider the science supporting EPA's revision of the NAAQS, as well as the impacts of climate change on ozone levels.

Hydraulic fracturing ("fracking") operations emit especially large amounts of air pollution, including toxic air pollutants. Permitting fracking and other well stimulation techniques will greatly increase the release of harmful air emissions. BLM must analyze air quality impacts from new development in conjunction with the existing air quality landscape. BLM must analyze increased emissions from foreseeable oil and gas development for the Lease Sale in order to prevent further degradation of local air quality, respiratory illnesses, premature deaths, hospital visits, as well as missed school and work days.

The BLM must take the necessary steps to analyze the impacts of all foreseeable future air emissions from induced oil and gas development and operations in conjunction with this Lease Sale, and cumulatively with future oil and gas projects. In addition, greenhouse gases, recognized as pollutants under the Clean Air Act in *Massachusetts v. E.P.A.*, 549 U.S. 497, 528, 127 S. Ct. 1438, 1459, 167 L. Ed. 2d 248 (2007), must be regulated under NAAQS and other standards for air quality to protect human health. The EPA's and by extension BLM's failure to impose, track, and enforce limits on these substances is arbitrary under NEPA.

BLM also must identify mitigation measures for controlling air pollution emissions, 40 C.F.R. § 1508.25, and consider all reasonable alternatives. *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008) (citing 40 C.F.R. § 1502.14(a)).

D. BLM Must Take a Hard Look at Impacts to Human Health.

Protecting public health is fundamental to NEPA's underlying purpose. NEPA was enacted in part "to stimulate the health and welfare of man," 42 U.S.C § 4321, and its requisite evaluation of significance mandates that agencies consider the degree to which their proposed actions affect public health or safety. 40 C.F.R § 1508.27(b)(2). NEPA requires federal agencies "to use all practicable means, consistent with other essential considerations of national policy" to "assure for all Americans safe, healthful, productive and aesthetically and culturally pleasing surroundings." 42 U.S.C 4331(b). The broad array of effects agencies must consider reflects a socio-ecological model of health that takes environmental, social, and structural determinants into account. "Effects include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative." 40 C.F.R § 1508.8. In addition, NEPA's use of the term "human environment" expressed Congressional intent that NEPA should promote public policy attentive to the inexorable link between human well-being and environmental integrity.[32] Senator

[31] *See* Duniway, Michael C. et al*., Wind erosion and dust from US drylands: a review of causes, consequences, and solutions in a changing world*, Ecosphere 10(3) (2019) (attached as Exhibit 16).

[32] Rajiv Bhatia and Aaron Wernham, *Integrating Human Health into Environmental Impact Assessment: An Unrealized Opportunity for Environmental Health and Justice*, 116 ENVIRONMENTAL HEALTH PERSPECTIVES 991 (Apr. 16, 2008) (attached as Exhibit 17) (Noting

Henry Jackson, the key author of NEPA, expressed this intent by stating: "When we speak of the environment, basically, we are talking about the relationship between man and these physical and biological and social forces that impact upon him. A public policy for the environment basically is not a public policy for those things out there. It is a policy for people."[33]

To protect public health and promote informed agency decision-making, transparency, and public participation, 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). Such consequences include all "reasonably foreseeable" direct, indirect, and cumulative effects, including health effects. An effect is "reasonably foreseeable" if it is "sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision." *Sierra Club v. Marsh,* 976 F.2d 763, 767 (1st Cir.1992). An agency's hard look "must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made." *Forest Guardians v. U.S. Fish & Wildlife Serv.,* 611 F.3d 692, 712 (10th Cir. 2010). Here, BLM considers and dismisses a detailed analysis of human health impacts based on the conclusion that "[t]he counties containing federal mineral parcels offered for lease do not meet the threshold to be considered as environmental justice populations." EA at 10. This does not satisfy BLM's obligation to consider human health impacts under NEPA. Nor does it satisfy BLM's obligation to consider health and related impacts to environmental justice populations under Executive Order 12898. BLM's conclusory assertion that because the counties in the project area do not "meet the threshold to be considered as environmental justice populations," nothing further is required, is also inconsistent with its later conclusion that:

> Based upon U.S. Census Bureau data, McKenzie County, ND met the criteria for minority environmental justice populations due to the percent of residents identifying themselves as belonging to a race other than white and/or of Hispanic origin. In addition, Williams County, ND was just below the threshold for the same population demographics. Adverse effects to historical and current cultural and traditional uses and values in this area are correlated to the amount of surface-disturbing or other disruptive activities allowed under the proposed action.
>
> EA at 58.

There are several notable scientific papers BLM should consider in the context of adverse health risks and impacts associated with oil and gas drilling and fracking, both to potential Environmental Justice communities and to the population generally. A 2014 review identified 15 different components of unconventional oil and gas development, everything from trucks and

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that "the statutory and procedural requirements of EIA provide a powerful and underutilized mechanism to institutionalize a holistic, cross-sectoral approach to addressing health in public policy" and describing the then-emerging and now well-established practice of health impact assessment as a "catalyst" for integrating health considerations into environmental assessments under NEPA and its state analogs).

[33] *Id*.

tanks to chemicals and venting, which can present a chemical, physical and/or safety hazard.[34] And multiple peer-reviewed scientific papers have identified adverse health effects and risks arising from exposure to unconventional oil and gas drilling, even within a large radius of residences–potentially up to ten miles.[35] One such study found that babies whose mothers lived in close proximity to multiple oil and gas wells were 30% more likely to be born with heart defects than babies born to mothers who did not live close to oil and gas wells.[36]

Also critical to the BLM's analysis of air quality impacts is the relationship to human health. Logically, adherence to NAAQS would have a positive relationship to human health, however, the agency cannot rely on these standards or other indicators such as the Air Quality Index ("AQI") or National Air Toxics Assessment ("NATA") and assume that this alone would satisfy the BLM's hard look NEPA obligations with regard to human health. According to the EPA:

> Breathing ground-level ozone can result in a number of health effects that are observed in broad segments of the population. Some of these effects include:
>
> - Induction of respiratory symptoms
> - Decrements in lung function
> - Inflammation of airways

[34] John L. Adgate et al., Potential Public Health Hazards, Exposures and Health Effects from Unconventional Natural Gas Development, 48 ENVIRONMENTAL SCIENCE & TECHNOLOGY 8307 (Feb. 24, 2014) (attached as Exhibit 18).

[35] *See, e.g.,* Lisa M. McKenzie *et al.*, *Birth Outcomes and Maternal Resident Proximity to Natural Gas Development in Rural Colorado*, 122 ENVIRONMENTAL HEALTH PERSPECTIVES 412 (April 2014) (attached as Exhibit 19) (Finding an increased risk of congenital heart and neural tube defects in babies born to mothers living within 10 miles of a natural gas well); Janet Currie *et al.,Hydraulic Fracturing and Infant Health: New Evidence from Pennsylvania*, 3 SCIENCE ADVANCES e1603021(Dec. 13, 2017) (attached as Exhibit 20) (Finding evidence of negative health effects of in utero exposure to fracking sites within 3 km, or about 1.86 miles, of a mother's residence, with the largest health impacts seen within 1 km, or about 0.62 miles); Ellen Webb *et al., Potential Hazards of Air Pollutant Emission from Unconventional Oil and Natural Gas Operations on the Respiratory Health of Children and Infants*, 31 REV. ENVIRONMENTAL HEALTH 225-243 (Jun. 1, 2016), at 236 (attached as Exhibit 21) (Noting that many unconventional oil and gas setback rules, for setbacks of 1000 feet or less, do not adequately protect health, especially children's respiratory health, that "the majority of municipal setback ordinances are not supported by empirical data," and calling for a one-mile minimum for setbacks between drilling facilities and schools, hospitals, and occupied dwellings in light of the heightened health risks of residing within ½ mile or less of unconventional oil and gas drilling sites).

[36] Lisa M. McKenzie *et al.*, *Birth Outcomes and Maternal Resident Proximity to Natural Gas Development in Rural Colorado*, 122 ENVIRONMENTAL HEALTH PERSPECTIVES 412 (April 2014) (attached as Exhibit 19).

Respiratory symptoms can include:

- Coughing
- Throat irritation
- Pain, burning, or discomfort in the chest when taking a deep breath
- Chest tightness, wheezing, or shortness of breath

> In addition to these effects, evidence from observational studies strongly indicates that higher daily ozone concentrations are associated with increased asthma attacks, increased hospital admissions, increased daily mortality, and other markers of morbidity. The consistency and coherence of the evidence for effects upon asthmatics suggests that ozone can make asthma symptoms worse and can increase sensitivity to asthma triggers.[37]

Oil and gas development is one of the largest sources of VOCs, ozone, and sulfur dioxide emissions in the United States. The relationship between air quality and human health must be analyzed in the agency's NEPA analysis. "The agency must examine the relevant data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'" *Motor Vehicle Mfrs.,* 463 U.S. at 43 (1983).

E. The BLM Must Take a Hard Look at Impacts to Groundwater from Hydraulic Fracturing and Horizontal Drilling.

The EA fails to take a hard look at impacts to groundwater, in three ways. First, the EA wrongly determines that offering parcels for lease will not significantly impact water resources, because its analysis of vertical separation between hydraulically fractured formations and groundwater resources does not account for usable aquifers that are deeper than existing water wells. Second, the EA fails to address industry noncompliance with existing cementing and casing regulations. Finally, the EA attempts to excuse these gaps by improperly deferring analysis to the APD stage. BLM's response to our comments on the draft EA does not address these concerns. Because there is evidence that current regulations and industry practices do not adequately protect usable groundwater from contamination, and that issuing these leases will likely have a significant effect on usable groundwater, BLM should prepare an environmental impact statement (EIS) addressing these concerns now, at the lease sale stage.

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." *Foundation for North American 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

[37] EPA, *Health Effects of Ozone in the General Population,* available at: http://www.epa.gov/apti/ozonehealth/population.html (last visited September 2, 2020).

effectiveness of mitigation is not assured, then the finding of no significant impact is invalid and the agency must prepare an EIS. *Id*.

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).

Here, we commend BLM for including quantitative information about the amount of water that will be used to develop the specific lease parcels. EA at 65–66. BLM should expand this analysis by quantifying and/or analyzing: the amount of wastewater generated by fracking, the acreage of land that will be disturbed for wastewater and drilling mud impoundments, the increase in truck traffic associated with fracking, the impacts on roads, the socioeconomic impacts on small towns from the influx of oil and gas workers, the air pollutants released from deeper wells, the increase in greenhouse gas emissions such as methane, the impacts to human health, and the impacts to wildlife from fracking. Furthermore, as discussed below, BLM should expand its analysis of groundwater quality impacts to account for deep but usable aquifers, and to account for inadequacies with existing rules and regulations.

(1) The EA's Analysis of Groundwater Impacts Fails to Account for Deep Aquifers with Usable Water.

As the EA acknowledges, groundwater is a critical resource that supplies many communities—especially rural ones—with drinking water. *See*, *e.g.*, EA at 62 ("95 percent of the rural, self-supplied domestic systems operate on groundwater sources."). 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 parts per million (ppm) of total dissolved solids (TDS). 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 TDS. 53 Fed. Reg. 46,798, 46,801, 46,805 (Nov. 18, 1988). While water with salinity approaching 10,000 ppm TDS 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* USGS, Brackish Groundwater in the United States[38] (suggesting brackish groundwater may offer a partial solution to current and future water demands). This standard underscores the need to identify and protect every potentially usable groundwater aquifer, regardless of whether that aquifer currently supplies existing water wells.

The EA acknowledges concerns about impacts to usable water. EA at 59–69. BLM analyzed whether hydraulic fracturing or other well development processes would likely impact

[38] Available at https://water.usgs.gov/ogw/gwrp/brackishgw/, (attached as Exhibit 22).

any domestic water wells in the area of the lease sale by comparing the depths of the mineral formations that would likely be targeted for development on each of the leases with the depth of existing domestic water wells in the area. *Id*. at 62–64 & Appxs. F, F2, and G & Fig. 8, 9. It is commendable that BLM used the available data to analyze these potential impacts. BLM's analysis demonstrates that it is not only possible, but also of paramount importance to determine at the leasing stage whether lease development may impact usable groundwater in the leasing area. *Accord WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, --- F. Supp. 3d ---, 2020 WL 2104760, at *6 (D. Mont. May 1, 2020).

However, the depth of existing water wells is not a proxy for all usable groundwater. Usable groundwater formations may exist well beneath the formations that currently supply water wells. Climate change, drought, and aquifer depletion may require North Dakota and Montana farmers and ranchers to use deeper and saltier aquifers for their drinking water and to water their livestock and crops in the future, and this groundwater must be protected.

Yet BLM has made no effort to determine the depth of all usable (or potentially usable) groundwater in the surrounding regions. Without identifying how deep usable aquifers (with less than 10,000 ppm TDS) extend in the areas of the leases, BLM cannot know whether fracturing enabled by the proposed leases poses a risk of contaminating groundwater due to insufficient vertical separation. Rather than answering this critical question, BLM simply assumes that vertical separation between typical fracturing depths and existing water wells equates to adequate protection for all groundwater, regardless of depth. NEPA does not permit BLM to rely on this kind of incorrect assumption. *See Native Ecosystems Council v. U.S. Forest Serv.*, 418 F.3d 953, 965 (9th Cir. 2005) ("To take the required 'hard look' at a proposed project's effects, an agency may not rely on incorrect assumptions.") (citing 40 C.F.R. § 1500.1(b)); *Or. Nat. Desert Ass'n v. Jewell*, 840 F.3d; 16 562, 570 (9th Cir. 2016) (rejecting agency reliance on inaccurate data); *Sierra Club v. EPA*, 671 F.3d 955, 967 (9th Cir. 2012) (same).

Nor does BLM's limited analysis in other parts of the EA supply the requisite information. BLM briefly discusses characteristics of aquifers in Western Montana in general. EA at 62. But rather than addressing which aquifers underlie the parcels at issue and describing their depth and proximity to oil and gas formations, BLM simply hedges that "[l]ocal groundwater conditions within the vicinity of the lease parcels are highly variable and the quality and availability of groundwater varies greatly across the region." *Id*. at 62.

Relatedly, BLM acknowledges the risks posed by well communication between induced and existing fractures (*i.e.*, "frack hits"), but does not meaningfully consider how the lease sale will contribute to this risk. Frack hits are more likely when cement outside production casing does not extend far enough above production intervals, and when wells are spaced closely together. This concern is particularly salient in Montana and North Dakota, because North Dakota regulations require just 100 feet of cement outside production casing above the uppermost interval of production, and Montana has no such requirement whatsoever. Neither Montana nor North Dakota requires monitoring or a minimum separation distance to avoid frack hits.

Yet BLM does not consider whether well communication or frack hits are a risk on the specific leases at issue. The EA notes that "[t]he potential for [frack hits] is likely dependent on the local hydraulic gradients where those fluids are dissolved in the water column." EA at Appx. F p. 7. And the EA recognizes that "it is generally accepted that the potential [for this impact] decreases with increasing distance between the production zone and usable water zones. . . . [which] is dependent upon the site specific conditions at the well location." *Id.* at Appx. F at 9. But the EA does not provide any information regarding the placement of cement above upper perforated intervals, for either existing wells or for wells that may be developed on the offered leases. Nor does the EA discuss the presence of nearby preexisting boreholes in the Bakken/Three Forks Formation, even though BLM's own analysis shows that the Montana lease parcels are in areas that have a large number of existing wells. EA at Appx. G. Without these two pieces of information—the extent of cement outside production casing above production intervals, and well spacing—BLM cannot ensure protection of groundwater resources in lease areas.

In addition to Appendix G, which compares average water well depth in the area of the proposed leases to the depths of the mineral formations that will likely be targeted for fracturing, the EA includes a Hydraulic Fracturing White Paper as Appendix F, which documents the myriad pathways through which hydraulic fracturing can pollute ground and surface water. *See id.* at Appx. F. It is a step in the right direction for BLM to acknowledge that hydraulic fracturing and related processes can cause ground and surface water contamination. But the analysis in both Appendix F and in the EA itself continues to improperly minimize the risk of contamination caused by improper well construction, inadequate well casing and cementing, and other accidents that can allow hydraulic fracturing fluids and other contaminants to enter usable groundwater formations. *See*, *e.g.*, *id.* at 67 ("[C]umulative impacts on water quality findings associated with hydraulic fracturing appear inconclusive at this time.").

Additionally, BLM acknowledges that spills of fracturing fluids and produced water may pose risks to surface and groundwater. EA at 65 & Appx. F at pp. 6, 7, 14. But BLM does not discuss whether spills pose particular risks for the leases at issue. This is alarming because many of the proposed leases, in both Montana and North Dakota, are located directly next to, or directly underneath lakes, streams, rivers, or other surface water bodies. *See* EA at Appx. C. BLM must analyze the specific potential for spills into these water bodies, rather than simply observing that spills can occur in general.

Finally, the NEPA analyses for the underlying RMPs also fail to fully address impacts to groundwater. For example, similar to the lease sale EA, the Miles City RMP FEIS's analysis of groundwater impacts simply provides broad-brush descriptions of known aquifers, existing water wells, and water rights. *See* Miles City RMP FEIS at 3-31 to 3-36. And its discussion of oil and gas development, including drilling and hydraulic fracturing, offers minimal insight into water impacts and simply asserts that existing regulations provide adequate protection. *Id.* at 3-102 to 3-106. This FEIS, like the lease sale EA, does not meaningfully compare available aquifer data with likely fracturing activity to assess the risk of deep aquifer contamination. As a result, BLM cannot rely on the analyses in the underlying RMPs-EISs to meet its obligations under NEPA to take a "hard look" at the myriad impacts of fracking. *See WildEarth Guardians,* 2020 WL 2104760, at *3–4; *see also Pennaco Energy, Inc. v. U.S. Dept. of Interior*, 377 F.3d 1147, 1151,

1153 (10th Cir 2004); C*tr. for Biological Diversity v. U.S. Bureau of Land Management*, 937 F. Supp. 2d 1140, 1157 (N.D. Cal. 2013).

BLM attempts to address deep groundwater in its Response to Comments (Appendix H of the final EA), but the response is inadequate. BLM asserts that (1) brackish groundwater aquifers are not expected to occur at depths greater than 1,000 feet in the lease sale area; (2) water wells completed in the lower Tertiary aquifers are at most 3,000 feet deep; and (3) the likely target formation for these leases, the Bakken/Three Forks Formation, is located below 9,000 feet. Because the target formation is deeper than brackish aquifers and lower Tertiary aquifers, BLM argues, there is no risk of groundwater contamination from lack of vertical separation between the targeted formation and usable groundwater aquifers.

This response is inadequate for two reasons. First, it repeats the flawed assumption that existing water wells are a suitable proxy for all potentially usable groundwater. For example, the response states that lower Tertiary aquifers in the lease sale area "*are deeply buried* or overlain by fine-grained rocks in many places." Response to Comments at 4 (emphasis added). But rather than providing the actual depth and salinity of these aquifers throughout the lease sale area, BLM merely discusses the depths of "*[w]ater wells* completed in the aquifers." *Id.* (emphasis added). This discussion once again misses precisely the concern we are raising. Usable or potentially usable groundwater can occur at depths far greater than the depths of existing water wells, and BLM's analysis is incomplete until it provides and considers detailed information about all potentially usable groundwater in the lease sale area. Absent that, it is impossible for BLM and the public to know how future development will impact groundwater.

Second, there is evidence that usable groundwater does in fact exist in the lease sale area at depths close to expected target formations. In BLM's EA for its December 2018 Montana/Dakotas lease sale—which included many parcels in the same region as the September 2020 sale—BLM discussed "the deeper Paleozoic Madison formation aquifer." Dec. 2018 EA at 51.[39] BLM wrote that "[w]ater quality of this aquifer is highly variable and is dependent on depth, bedrock type, recharge rate, and other factors" and stated that "[t]he depth to the Madison formation aquifer in the planning area can exceed 6,000 feet." *Id.* According to publicly available USGS data and maps, a portion of the Madison formation with less than 10,000 ppm TDS occurs in at least one county that contains parcels to be offered in the September 2020 sale.[40] BLM does not explain, in its EA or Response to Comments, whether the Madison formation (or other deep, usable aquifers that do not serve existing water wells) might be at risk of contamination due to lack of vertical separation. This example illustrates the problem with BLM's approach: looking only at existing water wells can result in usable aquifers being overlooked. A comprehensive, detailed analysis of *all* groundwater in the relevant region is needed.

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[39] Available at https://eplanning.blm.gov/public_projects/nepa/108993/160291/195985/Environmental_Assessment_December_11_2018_Lease_Sale.pdf

[40] *See* United States Geologic Survey, Ground Water Atlas of the United States, Montana, North Dakota, South Dakota, Wyoming, Hydrologic Investigations Atlas 730-I, at Figure 61 (1996), available at https://pubs.usgs.gov/ha/730i/report.pdf.

Thus, the Response to Comments notwithstanding, BLM fails to fully assess risks to all deep, usable groundwater. BLM offers two explanations in the EA to excuse this gap in its analysis. First, asserts that existing regulations would adequately protect any usable groundwater. Second, it suggests all necessary analysis will be conducted at the APD stage. Neither explanation holds water, as explained below.

(2) BLM Fails to Address Industry Noncompliance with Existing Regulations, which are Themselves Inadequate to Protect Usable Groundwater.

The EA waves away groundwater concerns largely by asserting that existing regulations would protect usable groundwater. Despite the assertion that federal and state regulations will prevent aquifer contamination, Montana and North Dakota regulations do not specifically require wells to have surface casing that extends 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; North Dakota Oil and Gas Division Rule 43-02-03-21.

In addition to discussing Montana and North Dakota state regulations, the EA states that "[a]ll wells would be cased and cemented pursuant to . . . Onshore Orders No. 1 & 2." EA at 66. But 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 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); *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).

Moreover, industry has admitted that despite Onshore Order No. 2, it often does not protect usable water 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 ppm TDS would be protected during drilling.[41] Instead, companies in North Dakota and Montana say they only install protective casing to a depth below the Pierre Shale formation, even if additional well casing would be needed to protect usable water located deeper than that formation. *Id*. at 84. Notably, nothing in Montana's or North Dakota's oil and gas regulations explicitly requires protective casing below the Pierre Shale formation or any other formation. *See generally* Administrative Rules of Montana Board of Oil and Gas Conservation, Chapter 22, Rules 36.22.101-36.22.1707; North Dakota Oil and Gas Division Rule 43-02-03-21. WEA has explained that requiring companies to protect all underground sources of drinking water would result in substantial additional costs for "casing and cementing associated with

[41] Sept. 25, 2017 WEA comments Re: RIN 1004-AE52. *Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands; Rescission of a 2015 Rule* (82 Fed. Reg. 34,464) at 59 (attached as Exhibit 23).

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 TDS 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, which BLM must address before issuing new leases but 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.

Indeed, numerous recent studies, which have been submitted to BLM's Montana State Office and its Field Offices in other recent proceedings, confirm that casing and cementing practices do not always adequately protect usable water.[42]

In its Response to Comments, BLM dismisses these studies by distinguishing Montana's geology from Pavillion, Wyoming's. *See* Response to Comments at 7–8. BLM asserts that "the Montana parcels have different underlying geology and a greater degree of vertical separation between existing groundwater wells in the vicinity of the lease parcels and the targeted formation." *Id.* However, as discussed above, BLM's analysis of deep groundwater is flawed and incomplete, and these information gaps preclude BLM from ascertaining whether there is adequate vertical separation between usable groundwater and targeted formations.

BLM may not assume that groundwater will be protected by current practices when presented with information showing these practices are ineffective at protecting groundwater. *See WildEarth Guardians*, 2020 WL 2104760, at *6 (holding that "BLM failed to take a hard look at groundwater impacts due to . . . surface casing depth not extending past drinking water.") 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 December 22, 2017 report by Dr. DiGiulio. 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. For example, additional data on 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.

[42] *See*, *e.g.*, Gayathri Vaidyanathan, Fracking Can Contaminate Drinking Water at 8, Sci. Am. (Apr. 4, 2016); Dominic Digiulio, *Examination of Selected Production Files in Southcentral Montana to Support Assessment of the March 2018 BLM Lease Sale* (December 22, 2017)(attached as Exhibit 24); 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, Envtl. Sci. & Tech. 4524, 4532 (Mar. 29, 2016)(attached as Exhibit 25); EPA, *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States* (2016)(Attached as Exhibit 26).

(3) BLM Should Not Wait Until the APD Stage to Fully Assess Groundwater Impacts.

BLM's other reason for not providing a full analysis of groundwater impacts is its claim that these impacts will be assessed at the APD stage. However, the district court for the District of Montana rejected this exact approach, emphasizing that "[t]he Ninth Circuit for decades has held that NEPA requires at least some site specific analysis at the leasing stage, when this stage represents an irretrievable commitment of resources." *WildEarth Guardians*, 2020 WL 2104760, at *5 (internal quotation marks omitted) (quoting *N. Alaska Envtl. Ctr. v. Kempthorne*, 457 F.3d 969, 974–75 (9th Cir. 2006)). The court in *WildEarth* explained that BLM can and should undertake a reasonably specific analysis of groundwater impacts at the leasing stage, and held that deferring this analysis to the APD stage is "improper[]." *Id.* at *6. BLM should provide an EIS that fully assesses groundwater impacts now, before irretrievably committing publicly-owned resources.

The need to include a full analysis at the lease sale stage is underscored by the fact that the BLM frequently fails to fully analyze the impacts of fracking at the APD stage. For example, the BLM recently approved five Application Permits to Drill ("APDs") in Big Horn County, all of which have used or will use hydraulic fracturing and horizontal drilling to reach a shale formation at 8,000+ feet. *See* WildEarth Guardians, Request for State Director Review, Alta Vista Oil Corporation Doc Holiday2-H and Bullock 1-H Application Permit to Drill, DOI-BLM-MT-C020-2018-0010-DNA at 4 (Feb. 28, 2018). The underlying EA for the first well completely failed to analyze the impacts of fracking and all of the subsequent APDs relied upon this initial EA. *Id*. Thus, unless BLM analyzes these impacts at the lease sale stage, such analysis is unlikely to occur. This calls into question BLM's assertion that it will be able to protect groundwater through unspecified future NEPA analysis and Conditions of Approval. EA at 64–65, 68.

F. The BLM Must Consider Oil and Gas Transportation, Including Leaks and Spills.

NEPA requires agencies to analyze downstream fossil fuel transport impacts, including construction of transport and harmful impacts from transport. *E.g.*, *Mont. Envtl. Info. Ctr. v. OSM*, 274 F. Supp. 2d 1074 (D. Mont. 2017). Agencies must further fully analyze the impacts of fossil fuel leaks or spills. *Standing Rock Sioux Tribe v. U.S. Army Corps of Engineers*, No. CV 16-1534 (JEB), 2020 WL 1441923 (D.D.C. Mar. 25, 2020); *350 Montana v. Bernhardt*, No. CV 19-12-M-DWM, 2020 WL 1139674 (D. Mont. Mar. 9, 2020). Here, BLM's EA fails entirely to address how oil from the proposed leases will be transported or the risks of such transportation. It is plain that oil transportation by pipeline or by train is dangerous to communities and the environment.[43]

G. The BLM Must Consider the Disposal of Waste from Fracking.

[43] Mattson Declaration on train impacts on grizzly bears (Attached as Exhibit 27).

Fracking produces significant amounts of waste, and because of exemptions under federal and state law, the oil and gas industry in North Dakota is not required to disclose the chemicals and additives they use in fracking fluid.[44] For each barrel of oil produced, at least an equivalent amount of saltwater is produced, meaning that in 2018, when North Dakota reported more than 460 million barrels of oil produced, at least this much wastewater was produced in the State. The disposal of this water has resulted in significant pollution of state waters in North Dakota and likely Montana as well. Fracking operations also produce solid waste that are often taken to local landfills or transported out of state. The BLM is required to take a hard look the impacts of fracking related waste under NEPA, as well as analyzing the cumulative impacts the September sale in the context of existing and reasonably foreseeable future development in the area. *See e.g. ForestWatch v. United States Bureau of Land Mgmt.,* No. CV154378MWFJEMX, 2016 WL 5172009, at *10 (C.D. Cal. Sept. 6, 2016); *Ctr. for Biological Diversity v. U.S. Forest Serv.*, No. 2:17-CV-372, 2020 WL 1429569, at *18 (S.D. Ohio Mar. 13, 2020).

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

[44] North Dakota Frack Waste Report, Earthworks, June 2020 (attached as Exhibit 28).

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, *Groundwater Atlas of the United States, Montana, North Dakota, South Dakota, Wyoming HA 730-I*, https://pubs.usgs.gov/ha/ha730/ch_i/I-text.html, *see Figure*s 10-11 https://pubs.usgs.gov/ha/ha730/ch_i/I-summary.html. The same is true with respect to climate impacts of leasing, given the potentially significant climate impacts, as revealed through the social cost of carbon and the rapidly shrinking global carbon budget, as well as the increasing risks of climate tipping points and significant unanticipated climate impacts. E.g., USGCRP, National Climate Assessment, supra; Lenton et al., Climate Tipping Points—Too Risky to Bet Against 575 Nature 592 (Nov. 2019) (attached as Exhibit 10).

Finally, because the September 2020 lease parcels are close to lease parcels sold in previous recent 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). This latter sentence is particularly important here. The September lease sale is not occurring in a vacuum. There is clearly significant interest in the area that is continuing with these parcels. Thus, the BLM must more comprehensively study the cumulative impacts of these similar actions occurring within the same area.

II. Endangered Species Act

A. Statutory Framework and Legal Violations

Section 7(a) of the ESA provides:

> **(1)** The Secretary shall review other programs administered by him and utilize such programs in furtherance of the purposes of this chapter. All other Federal

> agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this chapter by carrying out programs for the conservation of endangered species and threatened species listed pursuant to section 1533 of this title.
>
> **(2)** Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section. In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available.

16 U.S.C.A. § 1536(a). Section 7(c) further states:

> **(1)** To facilitate compliance with the requirements of subsection (a)(2), each Federal agency shall, with respect to any agency action of such agency for which no contract for construction has been entered into and for which no construction has begun on November 10, 1978, request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action. If the Secretary advises, based on the best scientific and commercial data available, that such species may be present, such agency shall conduct a biological assessment for the purpose of identifying any endangered species or threatened species which is likely to be affected by such action. Such assessment shall be completed within 180 days after the date on which initiated (or within such other period as is mutually agreed to by the Secretary and such agency, except that if a permit or license applicant is involved, the 180-day period may not be extended unless such agency provides the applicant, before the close of such period, with a written statement setting forth the estimated length of the proposed extension and the reasons therefor) and, before any contract for construction is entered into and before construction is begun with respect to such action. Such assessment may be undertaken as part of a Federal agency's compliance with the requirements of section 102 of the National Environmental Policy Act of 1969 (42 U.S.C. 4332).

16 U.S.C.A. § 1536.

When evaluating the effects of a proposed action, agencies much consider direct, indirect, and cumulative effects:

> Effects of the action refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline. The environmental baseline includes the past and present

> impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. Indirect effects are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration.

50 C.F.R. § 402.02. Cumulative effects are "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." *Id.* The analysis of effects must consider impacts in the action area, which is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." *Id.*

"Each Federal agency shall review its actions at the earliest possible time to determine whether any action may affect listed species or critical habitat." 50 C.F.R. § 402.14(a).

> An agency may avoid the consultation requirement only if it determines that its action will have "no effect" on a listed species or critical habitat. *Sw. Ctr. for Biological Diversity v. U.S. Forest Serv.,* 100 F.3d 1443, 1447–48 (9th Cir.1996). Once an agency has determined that its action "may affect" a listed species or critical habitat, the agency must consult, either formally or informally, with the appropriate expert wildlife agency. If the wildlife agency determines during informal consultation that the proposed action is "not likely to adversely affect any listed species or critical habitat," formal consultation is not required and the process ends. 50 C.F.R. § 402.14(b)(1). Thus, actions that have any chance of affecting listed species or critical habitat—even if it is later determined that the actions are "not likely" to do so—require at least some consultation under the ESA.
>
> We have previously explained that "may affect" is a "relatively low" threshold for triggering consultation. *Cal. ex rel. Lockyer v. U.S. Dep't of Agric.,* 575 F.3d 999, 1018 (9th Cir.2009). " '*Any possible effect,* whether beneficial, benign, adverse or of an undetermined character,'" triggers the requirement. *Id.* at 1018–19 (quoting 51 Fed.Reg. 19,926, 19,949 (June 3, 1986)) (emphasis in *Lockyer*). The Secretaries of Commerce and the Interior have explained that "[t]he threshold for formal consultation must be set sufficiently low to allow Federal agencies to satisfy their duty to 'insure' " that their actions do not jeopardize listed species or adversely modify critical habitat. 51 Fed.Reg. at 19,949.

Karuk Tribe of Cal. v. U.S. Forest Serv., 681 F.3d 1006, 1027 (9th Cir. 2012).

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 this species and alternatives that will protect this species.

B. Northern Long-Eared Bat

The Northern long-eared bat (Myotis septentrionalis) was listed as threatened under the Endangered Species Act in 2015.[45] More research is needed to establish the distribution and abundance of the Northern long-eared bat in Montana.[46] The EA noted that it had received comments to the effect that documented occupied habitat was identified within 5 miles of five of the parcels to be offered for sale, and acknowledges that suitable habitat exists in one or more parcels in McKenzie and Billings Counties, ND. EA at 13-14. The EA, however, contains no specific information about site surveys, habitat quality, or other information necessary to assess Northern long-eared bat populations or habitat suitability. Instead, it offers only a conclusory reliance on the BA prepared for the 2015 RMP revision and the USFWS' concurrence with the BLM's determination that the proposed action "may affect or is not likely to adversely affect" the species. EA at 15.

Because the Northern Long-Eared Bat is listed as threatened pursuant to the Endangered Species Act, the BLM must adequately consider effects of the project on this species using the best available science. Numerous expert reports have identified Northern Long-Eared Bat throughout eastern Montana.[47] This is critical because white-nose syndrome has been detected in Montana[48] and the species should properly be considered endangered, rather than threatened. *Ctr. for Biological Diversity v. Everson*, 435 F. Supp. 3d 69 (D.D.C. 2020). 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. The BLM should affirmatively post all consultation documents on the Internet so that the public is fully informed as to what determinations are being made and the analysis behind them. Alternatively, we respectfully request that BLM provide those documents to us when they are completed.

In January 2016, the U.S. Fish and Wildlife Service issued a Programmatic Biological Opinion on its Final 4(d) Rule for the Northern Long-Eared Bat.[49] This Programmatic Biological Opinion specifically identifies "forest conversion" from oil and gas development as posing a risk of permanent loss and fragmentation of roosting and foraging habitat.[50] Importantly, the

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[45] U.S. Fish and Wildlife Service, *Northern Long-Eared Bat (Myotis septentrionalis),* https://www.fws.gov/midwest/Endangered/mammals/nleb/index.html (last visited September 2, 2020).

[46] *Northern Myotis Montana Field Guide*, Montana's Official State Website, http://fieldguide.mt.gov/speciesDetail.aspx?elcode=amacc01070 (last visited September 2, 2020).

[47] Robbins & Moore (2018)(attached as Exhibit 29); Robbins & Moore (2019)(attached as Exhibit 30).

[48] https://helenair.com/outdoors/fungus-causing-disease-fatal-to-bats-detected-in-montana-for-first-time/article_0ef4a386-c67c-55ef-960f-edccf967fe0e.html (last visited September 2, 2020).

[49] U.S. Fish and Wildlife Service, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions (Jan. 5, 2016), *available at* https://www.fws.gov/midwest/endangered/mammals/nleb/pdf/BOnlebFinal4d.pdf.

[50] *Id.* at 48-49.

Programmatic Biological Opinion satisfies the requirements of the Endangered Species Act's Section 7 consultation requirement only for the Fish and Wildlife Service's Section 4(d) rule itself, not for other federal actions such as BLM oil and gas leasing: "the final 4(d) rule does not alter the requirements for consultation under section 7 of the Act, which apply to all federal actions that may affect listed species and designated critical habitat."[51] The Programmatic Biological Opinion does permit federal agencies to rely on it to fulfill their project-specific Section 7 responsibilities, but only under highly specific conditions set forth in the Biological Opinion, including a determination as to whether the activity is excepted from incidental taking prohibitions under the 4(d) rule.[52] The EA contains no information whatsoever that would allow either the BLM or the Fish and Wildlife Service to determine whether those conditions have been met.

The Northern long-eared bat is highly vulnerable to extrinsic stressors.[53] In particular, the species is highly susceptible to White-nose syndrome.[54] White-nose syndrome is an illness characterized by a ring of white fungus often seen on the faces and wings of affected bats.[55] White-nose syndrome has killed over a million bats since 2006, when symptoms were first observed in New York.[56] In the eastern United States, the species has undergone large declines where it is affected by White-nose syndrome.[57] North Dakota recently confirmed its first known cases of White-nose syndrome,[58] and Montana has confirmed presence of the fungus within the state.[59]

Oil and gas development can affect the Northern long-eared bat by causing loss and degradation of the bat's summer habitat. During the summer, northern long-eared bats roost underneath bark, in cavities, or in crevices of both live trees and dead trees (snags).[60] In addition to causing direct loss of habitat through land clearing, oil and gas development can lead to degradation of water quality and water withdrawals that cause loss or degradation of the bats' summer riverine habitat. All active season captures of Northern long-eared bat in Montana have been in or near riparian forest dominated by cottonwood and green ash.[61] When considered cumulatively with other threats, including White-nose syndrome and climate change, habitat degradation or loss from oil and gas development could significantly affect the Northern long-eared bat in Montana.

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[51] *Id.* at 4.
[52] *Id.* at 5-6.
[53] *Id.*
[54] *Id.*
[55] U.S. Fish & Wildlife Service, *What Is White-Nose Syndrome?*, WHITE-NOSE SYNDROME RESPONSE TEAM, *https://www.whitenosesyndrome.org/static-page/what-is-white-nose-syndrome* (last visited September 2, 2020).
[56] *Id.*
[57] *Id.*
[58] https://wildlife.org/north-dakota-sees-first-cases-of-white-nose-syndrome/
[59] http://fwp.mt.gov/news/newsReleases/fishAndWildlife/nr_1372.html
[60] *Northern Myotis Montana Field Guide* at 5.
[61] *Id.*

The Fish and Wildlife Service clearly recommends that other federal agencies, including the BLM, perform proper Northern long-eared bat surveys prior to proposed actions that may affect the species. Under Section 7(a)(1) of the ESA, which directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of listed species, the Fish and Wildlife Service recommends that federal action agencies "[p]erform NLEB surveys according to the most recent Range-wide Indiana Bat/NLEB Summer Survey Guidelines."[62] In order to satisfy its obligations under both ESA Section 7(a)(1) and NEPA, BLM should perform such surveys prior to leasing. Reliance on BLM's standard Endangered Species stipulation, Stipulation TES 16-2, see EA at 12, is squarely foreclosed by the Ninth Circuit's decision in Conner v. Burford, 848 F.2d 1441, 1454-57 (9th Cir. 2012), where the court found that it was improper to exclude the potential effects of future lessee activity when reviewing the leasing phase for oil and gas permits on public lands.

Given the comments regarding occupied habitat within five miles of some offered parcels and the confirmed presence of suitable habitat in some of the parcels to be offered, it is possible that the Northern long-eared bat is present in the areas affected by this Lease Sale. Therefore, at a minimum, under ESA Section 7(a)(2) and the terms of the 2016 Programmatic Biological Opinion, BLM must either initiate consultation with the Fish and Wildlife Service, or make the required determinations and reporting as to whether the proposed action may be covered by the Programmatic Biological Opinion.

C. Whooping Crane

BLM acknowledges that suitable habitat for the endangered whooping crane, *Grus americana*, is present on parcels in Burke and Williams Counties, North Dakota, and may be present in parcels in Richland and Sheridan Counties, Montana. EA at 13-14. The whooping crane is one of the rarest birds in North America and remains a symbol of efforts to recover endangered species. The U.S. Fish and Wildlife Service has stated that "if one had to choose a species . . . to symbolize the endangered species program, the whooping crane would be the prime candidate."[63] The critically endangered bird was listed as endangered March 11, 1967, one of the first species to be listed under the ESA. [64]

While the species' numbers are slowly increasing, "they are far below the level required for recovery."[65] Whooping cranes have a low reproductive rate and limited genetic variability, which derives from the mere 15 or so individuals that remained in the 1940s.[66] Despite returning from the brink, the species remains at critical risk of extinction.[67]

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[62] Programmatic Biological Opinion at 6.
[63] U.S. Fish and Wildlife Service, Region 2, Whooping Crane Recovery Plan 1 (1994).
[64] 32 Fed. Reg. 4001 (Mar. 11, 1967).
[65] U.S. Fish and Wildlife Service, Regions 2 and 6, Whooping Cranes and Wind Development – An Issue Paper (2009).
[66] *Id.*
[67] *Id.*

Oil and gas development in whooping crane habitat presents a number of risks to the species not examined in the EA or yet examined in ESA Section 7(a)(2) consultation. Oil and gas drilling, gathering, and production infrastructure, depending on location, may eliminate wetland habitats utilized by migrating whooping cranes, or may result in direct mortality of birds in waste pits.[68] Should power lines be constructed to supply power to any elements of oil and gas infrastructure, such construction would pose a particularly high risk to migrating cranes. Collisions with power lines during migration is recognized as one of the greatest threats to whooping cranes, and there BLM acknowledges that several of the parcels could lead to development within the whooping crane migration corridor, leading to a potential risk of injury or death from collisions.[69]

BLM, however, declines to analyze these impacts, consult with FWS as required under Section 7(a)(1) of the ESA, or include protective stipulations, instead merely asserting without explanation that instead it will apply "COA attached to the APD at project level." EA at 13 Table 1. This approach of deferring consultation to a later stage violates Section 7 and the Ninth Circuit's decision in Conner v. Burford, 848 F.2d 1441, 1454-57 (9th Cir. 2012), where the court found that it was improper to exclude the potential effects of future lessee activity when reviewing the leasing phase for oil and gas permits on public lands. Prior to leasing, BLM must: (a) analyze the available habitat and use of the proposed parcels by migrating whooping cranes, (b) consult with the Fish and Wildlife Service to ensure that the proposed action will not jeopardize the survival and recovery of the species, and (c) impose appropriate stipulations at the leasing stage to ensure protection of suitable whooping crane habitat and minimize risk of injury or mortality. Such stipulations, following appropriate analysis, could include, but are not limited to, siting requirements, pit covering or netting requirements, and/or mitigation measures to reduce collision risk from oil and gas infrastructure.

III. Conclusion

The Citizen Groups appreciate your consideration of the information and concerns addressed herein, as well as the information included in the attached exhibits.

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

Sincerely,

Melissa Hornbein and Shiloh Hernandez
Western Environmental Law Center

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[68] *See* U.S. Fish and Wildlife Service, Whooping Crane Recovery Activities 2011 at 23 (Aug. 31, 2011), *available at* https://whoopingcrane.com/wp-content/uploads/2011/09/Wooping-Crane-Recovery-Activities-2011.pdf.

[69] U.S. Fish and Wildlife Service, Whooping Crane Species Profile, available at https://ecos.fws.gov/ecp0/profile?spcode=B003.

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