



August 19, 2016

Via Hand Delivery

State Director
 U.S. Bureau of Land Management
 Montana State Office
 5001 Southgate Drive
 Billings, MT 59101

Re: Protest of October 2016 Competitive Oil and Gas Lease Sale

Dear State Director:

Pursuant to 43 C.F.R. § 3120.1-3, WildEarth Guardians hereby protests the Bureau of Land Management's ("BLM's") proposal to offer 91 publicly owned oil and gas lease parcels covering 19,790.175 acres in Montana for competitive sale on October 18, 2016. The 91 parcels are located in the Hilina District, including the Glasgow, Havre, and Malta Field Offices, and in the Miles City Field Offices of the BLM in the State of Montana. The lease parcels included for sale and that we are protesting include the following, as identified by the BLM in its Final October 2016 Oil and Gas Sale List:¹

Lease Parcel Number in Sale Notice	Lease Serial Number	Additional Parcel Number Listed by BLM	Acres	Field Office	County
10-16-01	MTM 108853	MTM 102757-QH	160.00	Glasgow	Valley
10-16-02	MTM 108854	MTM 102757-QJ	6.33	Glasgow	Valley
10-16-03	MTM 108855	MTM 102757-QK	16.97	Glasgow	Valley
10-16-04	MTM 108856	MTM 102757-QL	90.51	Glasgow	Valley
10-16-05	MTM 108857	MTM 102757-QM	74.11	Glasgow	Valley
10-16-06	MTM 108858	MTM 102757-QN	158.48	Glasgow	Valley
10-16-07	MTM 108859	MTM 102757-QQ	86.30	Glasgow	Valley
10-16-08	MTM 108860	MTM 102757-J7	39.60	Glasgow	Valley
10-16-09	MTM 108861	MTM 102757-J8	39.60	Glasgow	Valley
10-16-10	MTM 108862	MTM 102757-J9	80.00	Glasgow	Valley
10-16-11	MTM 108863	MTM 102757-KA	40.00	Glasgow	Valley

¹ This list of lease parcels is available on the BLM's website at https://eplanning.blm.gov/epl-front-office/projects/nepa/61593/76811/85267/MCFO_October_2016_SaleNotice_Map_List_Stips.pdf.

10-16-12	MTM 108864	MTM 102757-KB	80.00	Glasgow	Valley
10-16-13	MTM 108865	MTM 102757-KC	80.00	Glasgow	Valley
10-16-14	MTM 108866	MTM 102757-KE	40.00	Glasgow	Valley
10-16-15	MTM 108867	MTM 108867-Q3	575.05	Glasgow	Valley
10-16-16	MTM 108868	MTM 102757-GW	680.00	Glasgow	Valley
10-16-17	MTM 108869	MTM 102757-G4	160.00	Glasgow	Valley
10-16-18	MTM 108870	MTM 102757-G6	627.03	Glasgow	Valley
10-16-19	MTM 108871	MTM 102757-QU	79.17	Glasgow	Valley
10-16-20	MTM 108872	MTM 79010-ZR	480.00	Glasgow	Valley
10-16-21	MTM 108873	MTM 79010-ZS	320.00	Glasgow	Valley
10-16-22	MTM 108874	MTM 79010-7J	440.00	Glasgow	Valley
10-16-23	MTM 108875	MTM 102757-RM	200.00	Glasgow	Valley
10-16-24	MTM 108876	MTM 102757-6K	320.00	Glasgow	Valley
10-16-25	MTM 108877	MTM 102757-WC	40.00	Havre	Toole
10-16-26	MTM 108878	MTM 105431-K8	200.00	Havre	Liberty
10-16-27	MTM 108879	MTM 105431-FG	40.00	Havre	Liberty
10-16-28	MTM 108880	MTM 105431-LA	37.31	Havre	Liberty
10-16-29	MTM 108881	MTM 105431-K9	200.00	Havre	Liberty
10-16-30	MTM 108882	MTM 105431-LB	40.00	Havre	Liberty
10-16-31	MTM 108883	MTM 105431-LC	80.00	Havre	Liberty
10-16-32	MTM 108884	MTM 79010-Q2	114.73	Havre	Choteau
10-16-33	MTM 108885	MTM 97300-4G	199.54	Havre	Choteau
10-16-34	MTM 108886	MTM 79010-BV	40.00	Havre	Choteau
10-16-35	MTM 108887	MTM 105431-J4	160.00	Havre	Choteau
10-16-36	MTM 108888	MTM 105431-J5	120.00	Havre	Choteau
10-16-37	MTM 108889	MTM 105431-J6	440.00	Havre	Choteau
10-16-38	MTM 108890	MTM 105431-J8	80.00	Havre	Choteau
10-16-39	MTM 108891	MTM 79010-BX	40.00	Havre	Choteau
10-16-40	MTM 108892	MTM 105431-J9	160.00	Havre	Choteau
10-16-41	MTM 108893	MTM 79010-P7	445.78	Havre	Choteau
10-16-42	MTM 108894	MTM 97300-4M	153.02	Havre	Choteau
10-16-43	MTM 108895	MTM 97300-4N	80.00	Havre	Choteau
10-16-44	MTM 108896	MTM 79010-P5	40.00	Havre	Choteau
10-16-45	MTM 108897	MTM 97300-4V	360.00	Havre	Choteau
10-16-46	MTM 108898	MTM 97300-4W	520.00	Havre	Choteau
10-16-47	MTM 108899	MTM 79010-FB	47.85	Havre	Hill
10-16-48	MTM 108900	MTM 105431-H3	80.00	Havre	Hill
10-16-49	MTM 108901	MTM 105431-LG	40.00	Havre	Toole
10-16-50	MTM 108902	MTM 105431-LH	80.00	Havre	Toole
10-16-51	MTM 108903	MTM 105431-LJ	40.00	Havre	Toole
10-16-52	MTM 108904	MTM 105431-LK	80.00	Havre	Toole
10-16-53	MTM 108905	MTM 97300-BO	207.39	Havre	Toole
10-16-54	MTM 108906	MTM 105431-KA	223.10	Havre	Toole
10-16-55	MTM 108907	MTM 105431-HU	520.00	Havre	Toole
10-16-56	MTM 108908	MTM 105431-HV	40.00	Havre	Toole

10-16-57	MTM 108909	MTM 105431-LD	395.10	Havre	Toole
10-16-58	MTM 108910	MTM 105431-K5	79.58	Havre	Toole
10-16-59	MTM 108911	MTM 105431-LE	236.91	Havre	Toole
10-16-60	MTM 108912	MTM 97300-CC	189.67	Havre	Toole
10-16-61	MTM 108913	MTM 105431-KB	160.00	Havre	Toole
10-16-62	MTM 108914	MTM 105431-KC	190.27	Havre	Toole
10-16-63	MTM 108915	MTM 105431-KD	227.86	Havre	Toole
10-16-64	MTM 108916	MTM 105431-LL	200.00	Havre	Toole
10-16-65	MTM 108917	MTM 105431-LF	720.00	Havre	Toole
10-16-66	MTM 108918	MTM 79010-F4	65.36	Havre	Toole
10-16-67	MTM 108919	MTM 105431-KE	147.33	Havre	Toole
10-16-68	MTM 108920	MTM 105431-KF	80.00	Havre	Toole
10-16-69	MTM 108921	MTM 79010-F6	160.00	Havre	Toole
10-16-70	MTM 108922	MTM 105431-K6	280.00	Havre	Toole
10-16-71	MTM 108923	MTM 79010-F5	16.14	Havre	Glacier
10-16-72	MTM 108924	MTM 79010-A9	40.00	Malta	Phillips
10-16-73	MTM 108925	MTM 79010-B2	240.00	Malta	Phillips
10-16-74	MTM 108926	MTM 105431-FK	520.00	Malta	Phillips
10-16-75	MTM 108927	MTM 105431-FL	542.14	Malta	Phillips
10-16-76	MTM 108928	MTM 105431-FM	320.00	Malta	Phillips
10-16-77	MTM 108929	MTM 105431-FN	120.00	Malta	Phillips
10-16-78	MTM 108930	MTM 105431-FP	320.00	Malta	Phillips
10-16-79	MTM 108931	MTM 79010-A2	120.00	Malta	Phillips
10-16-80	MTM 108932	MTM 105431-K4	120.00	Malta	Phillips
10-16-81	MTM 108933	MTM 105431-FQ	278.98	Malta	Phillips
10-16-82	MTM 108934	MTM 105431-FT	279.38	Malta	Phillips
10-16-83	MTM 108935	MTM 105431-FU	440.00	Malta	Phillips
10-16-84	MTM 108936	MTM 105431-FV	640.00	Malta	Phillips
10-16-85	MTM 108937	MTM 105431-FW	520.00	Malta	Phillips
10-16-86	MTM 108938	MTM 105431-FR	120.00	Malta	Phillips
10-16-87	MTM 108939	MTM 105431-MN	480.11	Miles City	Big Horn
10-16-88	MTM 108940	MTM 105431-MT	520.22	Miles City	Big Horn
10-16-89	MTM 108941	MTM 105431-QB	325.47	Miles City	Rosebud
10-16-90	MTM 108942	MTM 105431-QC	460.92	Miles City	Rosebud
10-16-91	MTM 108943	MTM 105431-MJ	372.83	Miles City	Big Horn

In support of its proposed leasing, the agency prepared an Environmental Assessment (“EA”) for leasing in the Hiline District (which includes the Glasgow, Havre, and Malta Field Offices), DOI-BLM-MTM0020-2016-006-EA (hereafter “Hiline EA”) and a Determination of National Environmental Policy Act (“NEPA”) Adequacy for leasing in the Miles City Field Office, DOI-BLM-MT-C020-2016-0071-DNA (hereafter “Miles City DNA”), which itself relies upon an EA prepared by the BLM in May 2016, DOI-BLM-MT-C020-2016-0022-EA (hereafter “May 2016 Miles City EA”).

As will be explained, the BLM’s proposal to lease falls short of ensuring compliance with applicable environmental protection laws and is not based on sufficient analysis and assessment of key environmental impacts under the National Environmental Policy Act (“NEPA”), 42 U.S.C. § 4331, *et seq.* The BLM failed to analyze and assess the reasonably foreseeable greenhouse gas emissions that would result from development of the proposed leases, as well as failed to assess the significance of the climate impacts of these greenhouse gas emissions using the social cost of carbon protocol. The agency’s EA and the DNA area therefore deficient and fail to provide sufficient justification for its proposed action and its proposal to issue a Finding of No Significant Impact (“FONSI”). For the reasons below, we request the BLM refrain from offering the 36 proposed lease parcels for sale and issuance.

STATEMENT OF INTEREST

WildEarth Guardians is a nonprofit environmental advocacy organization dedicated to protecting the wildlife, wild places, wild rivers, and health of the American West. On behalf of our members, Guardians has an interest in ensuring the BLM fully protects public lands and resources as it conveys the right for the oil and gas industry to develop publicly owned minerals. More specifically, Guardians has an interest in ensuring the BLM meaningfully and genuinely takes into account the climate implications of its oil and gas leasing decisions and objectively and robustly weighs the costs and benefits of authorizing the release of more greenhouse gas emissions that are known to contribute to global warming.

Guardians submitted extensive comments on the Hilina EA and the Miles City DNA on June 14, 2016 (hereafter “Guardians’ June 14, 2016 Comments”). Those comments identified our key concerns with the BLM’s proposed leasing.

The mailing address for WildEarth Guardians to which correspondence regarding this protest should be directed is as follows:

WildEarth Guardians
2590 Walnut St.
Denver, CO 80205

STATEMENT OF REASONS

WildEarth Guardians protests the BLM’s October 2016 oil and gas lease sale over the agency’s failure to adequately analyze and assess the climate impacts and sage grouse impacts of the reasonably foreseeable oil and gas development that will result in accordance with the National Environmental Policy Act (“NEPA”), 42 U.S.C. § 4331, *et seq.*, and regulations promulgated thereunder by the White House Council on Environmental Quality (“CEQ”), 40 C.F.R. § 1500, *et seq.*

NEPA is our “basic national charter for protection of the environment.” 40 C.F.R. § 1500.1(a). The law requires federal agencies to fully consider the environmental implications of their actions, taking into account “high quality” information, “accurate scientific analysis,” “expert agency comments,” and “public scrutiny,” prior to making decisions. *Id.* at 1500.1(b).

This consideration is meant to “foster excellent action,” meaning decisions that are well informed and that “protect, restore, and enhance the environment.” *Id.* at 1500.1(c).

To fulfill the goals of NEPA, federal agencies are required to analyze the “effects,” or impacts, of their actions to the human environment prior to undertaking their actions. 40 C.F.R. § 1502.16(d). To this end, the agency must analyze the “direct,” “indirect,” and “cumulative” effects of its actions, and assess their significance. 40 C.F.R. §§ 1502.16(a), (b), and (d). Direct effects include all impacts that are “caused by the action and occur at the same time and place.” 40 C.F.R. § 1508.8(a). Indirect effects are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” *Id.* at § 1508.8(b). Cumulative effects include the impacts of all past, present, and reasonably foreseeable actions, regardless of what entity or entities undertake the actions. 40 C.F.R. § 1508.7.

An agency may prepare an environmental assessment (“EA”) to analyze the effects of its actions and assess the significance of impacts. *See* 40 C.F.R. § 1508.9; *see also* 43 C.F.R. § 46.300. Where effects are significant, an Environmental Impact Statement (“EIS”) must be prepared. *See* 40 C.F.R. § 1502.3. Where significant impacts are not significant, an agency may issue a FONSI and implement its action. *See* 40 C.F.R. § 1508.13; *see also* 43 C.F.R. § 46.325(2).

Here, the BLM fell short of complying with NEPA with regards to analyzing and assessing the potentially significant climate impacts of oil and gas leasing. In support of its proposed leasing, the agency prepared an EA for leases in the Hiline District and a DNA for leases in the Miles City Field Office. In the Hiline EA, however, the BLM failed to analyze the reasonably foreseeable greenhouse gas emissions that would result from selling the oil and gas lease parcels, as well as failed to assess the significance of any emissions, particularly in terms of carbon costs. For the Miles City Field Office, the NEPA document relied upon to support the BLM’s DNA—namely an EA prepared for leasing six parcels in the Miles City Field Office that was prepared in May 2016—similarly fails to analyze the reasonably foreseeable greenhouse gas emissions that would result from selling the proposed lease parcels.

Not only that, but it appears that the agency fell short of adequately analyzing and assessing the impacts of leasing to the greater sage grouse, both failing to support a FONSI and seeming to contract agency guidance. Notably, while the BLM claims that leasing will not affect general or priority sage grouse habitat, this does not appear to actually be the case.

Below, we detail how BLM’s proposal fails to comply with NEPA.

- 1. The BLM Failed to Fully Analyze and Assess the Direct, Indirect, and Cumulative Impacts of Greenhouse Gas Emissions that Would Result from Issuing the Proposed Lease Parcels**

In the Hiline EA and Miles City DNA (as well as the underlying EA relied upon by BLM in the Miles City DNA), the BLM completely rejected analyzing and assessing the potential direct and indirect greenhouse gas emissions, including carbon dioxide and methane, that would result from the reasonably foreseeable development of the proposed leases. Although

acknowledging that development of the lease parcels would occur and that greenhouse gas emissions would be produced, no analysis of these emissions was actually prepared.

In the Hiline EA, the BLM appears to assert that estimates of emissions are impossible to determine because it is not possible to determinate what reasonably foreseeable development may occur. This is confusing as the BLM was able to analyze reasonably foreseeable development that would occur from leasing in the Miles City Field Office. In the May 2016 Miles City EA relied upon by the BLM in its Miles City DNA, the agency estimated the leasing of six parcels would lead to the development of four wells. *See* May 2016 Miles City EA at 64. What's more, even in the Hiline EA, the BLM notes that reasonably foreseeable development scenarios have been analyzed for the District and through Resource Management Planning. *See* Hiline EA at unnumbered p. 44. For the District, the agency estimated that between 2007 and 2026, "6,866" new oil and gas wells are will be developed. *Id.* Notwithstanding this, the BLM made no effort in the Hiline EA or the Miles City DNA to estimate reasonably foreseeable development that would result and to subsequently calculate reasonably foreseeable emissions.

The failure to analyze and assess reasonably foreseeable greenhouse gas emissions is all the more egregious given that other BLM Field Offices, including, but not limited to, the Four Rivers Field Office in Idaho, the Royal Gorge Field Office of Colorado, and even Field Offices in Montana, including the Miles City Field Office in Montana, have not only estimated reasonably foreseeable greenhouse gas emissions associated with the development of oil and gas leases.

In the Four Rivers Field Office of Idaho, the BLM utilized an emission calculator developed by air quality specialists at the BLM National Operations Center in Denver to estimate likely greenhouse gases that would result from leasing five parcels. *See* Exhibit 4C to Guardians' June 14, 2016 Comments, BLM, "Little Willow Creek Protective Oil and Gas Leasing," EA No. DOI-BLM-ID-B010-2014-0036-EA (February 10, 2015) at 41, available online at https://www.blm.gov/epl-front-office/projects/nepa/39064/55133/59825/DOI-BLM-ID-B010-2014-0036-EA_UPDATED_02272015.pdf. Relying on a report prepared in 2013 for the BLM by Kleinfelder (this report was attached to Guardians' June 14, 2016 Comments as Exhibit 4D), the agency estimated that 2,893.7 tons of carbon dioxide equivalent ("CO₂e") would be released per well. *Id.* at 35. Based on the analyzed alternatives, which projected between 5 and 25 new wells, the BLM estimated that total greenhouse gas emissions would be between 14,468.5 tons and 72,342.5 tons annually. *Id.*

In the Royal Gorge Field Office of Colorado, the BLM contracted with URS Group Inc. to prepare an analysis of air emissions from the development of seven oil and gas lease parcels. *See* Exhibit 1 to this Protest, URS Group Inc., "Draft Oil and Gas Air Emissions Inventory Report for Seven Lease Parcels in the BLM Royal Gorge Field Office," Prepared for BLM, Colorado State Office and Royal Gorge Field Office (July 2013). This report estimated emissions of carbon dioxide and methane on a per-well basis and estimated the total number of wells that could be developed in these seven parcels. *See* Exhibit 1 at 3 and 5. This report was later supplanted by the Colorado Air Resource Management Modeling Study, or CARMMS, which estimated reasonably foreseeable emissions of greenhouse gases, criteria pollutants, and hazardous air pollutants associated with oil and gas development throughout Colorado, as well as

part of New Mexico, and modeled air quality impacts. See Exhibit 2 to this Protest, ENVIRON, “Colorado Air Resource Management Modeling Study (CARMMS) 2021 Modeling Results for the High, Low and Medium Oil and Gas Development Scenarios,” Prepared for BLM Colorado State Office (January 2015), available online at http://www.blm.gov/style/medialib/blm/co/information/nepa/air_quality.Par.97516.File.dat/CARMMS_Final_Report_w-appendices_012015.pdf. As part of the CARMMS report, the BLM estimated per well emissions, including greenhouse gas emissions, in tons per year, as follows:

Phase	PM ₁₀	PM _{2.5}	VOC	CO	NO _x	SO ₂	CO ₂	CH ₄	N ₂ O	HAP
Conventional Construction	5.21	0.64	0.05	0.23	0.72	0.02	108.1	0.00	0.00	0.01
CBM Construction	3.37	0.44	0.03	0.12	0.36	0.01	56.58	4.06	0.00	0.00
Conventional Production	1.15	0.15	6.67	1.30	0.73	0.00	251.9	17.14	0.00	0.43
CBM Production	2.25	0.25	13.10	1.13	0.62	0.00	181.6	19.05	0.00	1.31

Using these CARMMS estimates, as well as assumptions used in the agency’s reasonably foreseeable development scenario analyses, it appears relatively straightforward for the agency to have estimate total greenhouse gas emissions based on reasonably foreseeable projection of development, which the BLM has already demonstrated is feasible as evidenced by its disclosure in the May 2016 Miles City EA.

Finally, even in the Miles City Field Office of Montana, the BLM estimated likely greenhouse gas emissions from development of oil and gas leases. To do so, the agency first calculated annual greenhouse gas emissions from oil and gas activity within the Field Offices. See Exhibit 3 to this Protest, BLM, “Environmental Assessment for October 21, 2014 Oil and Gas lease Sale,” DOI-BLM-MT-0010-2014-0011-EA (May 19, 2014) at 51, available online at [http://www.blm.gov/style/medialib/blm/mt/blm_programs/energy/oil_and_gas/leasing/lease_sale/2014/oct_21_2014/july23posting.Par.25990.File.dat/MCFO%20EA%20October%202014%20Sale_Post%20with%20Sale%20\(1\).pdf](http://www.blm.gov/style/medialib/blm/mt/blm_programs/energy/oil_and_gas/leasing/lease_sale/2014/oct_21_2014/july23posting.Par.25990.File.dat/MCFO%20EA%20October%202014%20Sale_Post%20with%20Sale%20(1).pdf). The BLM then calculated total greenhouse gases by assuming that the percentage of acres to be leased within the federal mineral estate of the Field Office would equal the percentage of emissions. *Id.* Although we have concerns over the validity of this approach to estimate emissions (an “acre-based” estimate of emissions is akin to estimating automobile emissions by including junked cars, which has the misleading effect of reducing the overall “per car” emissions), nevertheless it demonstrates that the BLM has the ability to estimate reasonably foreseeable greenhouse gas emissions associated with oil and gas leasing and that such estimates are valuable for ensuring a well-informed decision.²

Although the BLM may assert that greenhouse gas emissions are too speculative to analyze, there is no basis for such a claim. Not only has the agency estimated reasonably

² In addition to the Miles City Field Offices, the BLM has estimated greenhouse gas emissions associated with oil and gas leasing in the Billings, Butte, and Dillon Field Offices.

foreseeable development and disclosed in the EAs that greenhouse gas emissions are a likely reasonably foreseeable consequence of issuing the leases and conveying the rights for leaseholders to develop, but using the agency's own logic, this would mean any analysis of future environmental impacts would be incredibly uncertain. Of course, this would completely undermine NEPA's mandate that significance be based on "uncertain[ty]." 40 C.F.R. § 1508.27(b)(5). Indeed, if the climate impacts of oil and gas leasing are, as the BLM asserts, so uncertain, then an EIS is justified. As CEQ states, whether or not impacts are significant, and therefore trigger the need to prepare an EIS, are based on whether impacts are "highly uncertain or involve unique or unknown risks." *Id.* The BLM cannot summarily dismiss significant issues, such as climate change, on the basis of uncertainty without assessing whether this uncertainty necessitates preparation of an EIS.

The BLM seems to attempt to dodge its duty to prepare an analysis of reasonably foreseeable greenhouse gas emissions by claiming the underlying Hiline and Miles City RMP EISs analyze reasonably foreseeable greenhouse gas emissions. *See* Hiline EA at unnumbered p. 46 and May 2016 Miles City EA at 38.³ We acknowledge that as part those EISs, the BLM prepared an estimate of some reasonably foreseeable greenhouse gas emissions related to reasonably foreseeable oil and gas development. However, those emissions estimates fall incredibly short of providing any meaningful insight as to the full scope of the direct, indirect, and cumulative impacts of BLM's current oil and gas leasing proposal.⁴

Notably, the emission estimates prepared as part of the RMPs only disclose emissions directly associated with the development of wells under the oversight of the BLM.⁵ The emission estimates shed no light on indirect emissions (e.g., impacts from oil and gas consumption, truck traffic, pipeline emissions, processing and refining emissions, etc.) and cumulative emissions from all oil and gas development in the Hiline District and Miles City Field Office. Under NEPA, indirect impacts are defined as those "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable" and cumulative impacts are defined as, "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of

³ The Hiline RMP EIS was prepared in 2015 and is available on the BLM's website here, http://www.blm.gov/mt/st/en/fo/malta_field_office/rmp/hiline_rmp/hiline_prmp.html. The Miles City RMP EIS was also prepared in 2015 and is available on the BLM's website here, http://www.blm.gov/mt/st/en/fo/miles_city_field_office/rmp/proposed_rmp.html.

⁴ The RMP emission estimates were prepared as part of Air Resource Technical Support Documents ("ARTSD") for Emission Inventories and Near-Field Monitoring reports for both the Hiline District and Miles City Field Office. The Hiline District ARTSD is available at [http://www.blm.gov/style/medialib/blm/mt/field_offices/malta/rmp/draft_rmp.Par.19742.File.dat/Hiline%20ARTSD%20\(03-18-13\).pdf](http://www.blm.gov/style/medialib/blm/mt/field_offices/malta/rmp/draft_rmp.Par.19742.File.dat/Hiline%20ARTSD%20(03-18-13).pdf) and the Miles City ARTSD is available at [http://www.blm.gov/style/medialib/blm/mt/field_offices/miles_city/rmp/draft_rmp.Par.41752.File.dat/MCFO%20AirDoc%20\(03-07-13\).pdf](http://www.blm.gov/style/medialib/blm/mt/field_offices/miles_city/rmp/draft_rmp.Par.41752.File.dat/MCFO%20AirDoc%20(03-07-13).pdf). As part of the Hiline EA and Miles City DNA, the BLM relies on the greenhouse gas estimates in the RMP EISs, which incorporate and present the results of the ARTSDs. Thus, these air quality reports should be a part of the administrative record supporting the agency's proposed leasing actions.

⁵ Even then, we question whether the estimates are accurate as they appear to fail to account for a number of sources of emissions associated directly with development. The estimates appear to fail to account for methane leaks from pipelines and controllers and well completion emissions.

what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. §§ 1508.7 and 1508.8(b). As the White House Council on Environmental Quality (“CEQ”) recently stated in their final guidance on addressing climate impacts under NEPA, agencies should “quantify a proposed [] action’s projected direct *and indirect* GHG [greenhouse gas] emissions” (emphasis added). Exhibit 4 to this Protest, CEQ, Memorandum for Heads of Federal Departments and Agencies, “Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews” (Aug. 1, 2016), available online at https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf

Here, in the RMP EISs, the BLM completely ignored the indirect greenhouse gas emissions that would result from its oil and gas management in the Hiline District and Miles City Field Office. This is not for lack of tools and valid methodologies for estimating such emissions.

With regards to greenhouse gases produced from the ultimate consumption of oil and gas that will be produced from the proposed leases, these indirect emissions are not impossible to analyze. A recent report prepared by EcoShift Consulting actually quantified the likely greenhouse gas emissions that could result from the production and ultimate consumption of federal oil and natural gas. *See* Exhibit 5 to this Protest, EcoShift Consulting, “The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels,” report prepared for Center for Biological Diversity and Friends of the Earth (Aug. 2015), available at <http://www.ecoshiftconsulting.com/wp-content/uploads/Potential-Greenhouse-Gas-Emissions-U-S-Federal-Fossil-Fuels.pdf>. This report estimated emissions resulting from refining, processing, transportation, and distribution of oil and gas, even quantifying potential emissions based on the likely end-use of oil and natural gas. There are also estimates by the EPA as to how much carbon dioxide equivalency, or CO₂e, is produced per barrel of oil consumed and per therm of natural gas consumed. *See* EPA, “Calculations and References,” website available at <http://www.epa.gov/cleanenergy/energy-resources/refs.html>. According to the EPA, 0.43 metric tons of CO₂ is released per barrel of oil consumed and 0.005302 metric tons of CO₂ is released per therm of natural gas consumed.⁶

In this case, the BLM could have applied these tools to analyze the indirect emissions associated with oil and gas production in both the Hiline District and Miles City Field Office. In the case of the Miles City Field Office, for example, the BLM estimated that annual federal oil production would be around 5.9 million barrels of oil and that annual federal natural gas production would be around 7.9 billion cubic feet. *See* Miles City RMP EIS at 4-368. Using the EPA emission factors identified above, this would amount to 2,537,000 metric tons of carbon dioxide annually related to oil consumption (5.6 million barrels * 0.43 metric tons of CO₂/barrel of oil consumed) and approximately 430,00 metric tons of carbon dioxide annually related to natural gas consumption (7.9 billion cubic feet/1000 cubic feet * 10.28 therms/thousand cubic feet * 0.005302 metric tons of CO₂ per therm of natural gas consumed). In the Hiline RMP EIS, the BLM similarly estimated that annual federal oil production would be around 140,000 barrels

⁶ According to the U.S. Energy Information Administration (“EIA”), one mcf, or thousand cubic feet, of natural gas generally equals 10.28 therms. *See* EIA, “Frequently Asked Questions,” website available at <http://www.eia.gov/tools/faqs/faq.cfm?id=45&t=8>.

and that annual federal natural gas production would be around 20 billion cubic feet annually. *See* Hiline RMP EIS at 499. Clearly the BLM is capable of not only estimating reasonably foreseeable oil and gas production, but with available and credible tools, capable of estimating indirect greenhouse gas emissions resulting from the consumption of that oil and gas.

Regardless, the BLM cannot rely on an analysis in an EIS to claim that the impacts of site-specific oil and gas leasing are not significant under NEPA. As CEQ NEPA regulations state, an EIS is required for “major Federal actions [] [s]ignificantly [] [a]ffecting [] [t]he quality of the human environment.” 40 C.F.R. § 1502.3. If the BLM is to rely on disclosures in the RMP EISs to satisfy its NEPA obligations for the proposed leasing, then the agency cannot issue a FONSI and rely solely on an EA. The BLM would either need to adopt the EIS in accordance with 40 C.F.R. § 1506.3 and issue a Record of Decision in accordance with 40 C.F.R. § 1505.2.

The BLM finally seems to attempt to argue that an analysis of greenhouse gas emissions is more appropriate at the drilling stage, after a lease has been issued and the rights to develop have been fully conveyed. We have yet to see the BLM actually prepare such a site-specific analysis in conjunction with an oil and gas lease development proposal. In fact, in the Hiline District and the Miles City Field Office, most applications for permits to drill (“APDs”) seem to be approved through the use of categorical exclusions or DNAs, which under NEPA, disclose no actual analysis of impacts. *See e.g.*, Exhibit 5 to this Protest, Recent APDs Approved Through DNAs in the Miles City Field Office.

What’s more, BLM’s argument has no merit as the agency has proposed no stipulations that would grant the agency discretion to limit, or outright prevent, development of the proposed leases on the basis of greenhouse gas emissions and/or climate concerns. The BLM is effectively proposing to make an irreversible commitment of resources, which is the hallmark of significance under NEPA. *See* 42 U.S.C. § 4332(c)(v) and 40 C.F.R. § 1502.16. The failure to prepare an EIS—or any analysis for that matter—to address the potentially significant reasonably foreseeable greenhouse gas emissions that would result from the proposed leases is contrary to NEPA.

Finally, it is concerning that BLM’s refusal to analyze reasonably foreseeable greenhouse gas emissions associated with leasing effectively ignores the potentially significant impacts of similar actions, including related oil and gas leasing and other oil and gas development decisions being proposed by the BLM. Under NEPA, an analysis of environmental impacts must consider the impacts of “similar actions,” or other reasonably foreseeable proposed BLM actions that have common timing and geography, and that pose similar environmental impacts. 40 C.F.R. § 1508.25(a)(3). Here, it is concerning that the BLM did not even address in a single NEPA document the reasonably foreseeable greenhouse gas emissions that would result from leasing in both the Hiline District and the Miles City Field Office, as well as emissions resulting from other concurrent oil and gas development proposals in Montana.

2. The BLM Failed to Analyze the Costs of Reasonably Foreseeable Carbon Emissions Using Well-Accepted, Valid, Credible, GAO-Endorsed, Interagency Methods for Assessing Carbon Costs that are Supported by the White House

Compounding the failure of the BLM to analyze the greenhouse gas emissions that would result from reasonably foreseeable oil and gas development is that the agency also rejected analyzing and assessing these emissions in the context of their costs to society. It is particularly disconcerting that the agency refused to analyze and assess costs using the social cost of carbon protocol, a valid, well-accepted, credible, and interagency endorsed method of calculating the costs of greenhouse gas emissions and understanding the potential significance of such emissions.

The social cost of carbon protocol for assessing climate impacts is a method for “estimat[ing] the economic damages associated with a small increase in carbon dioxide (CO₂) emissions, conventionally one metric ton, in a given year [and] represents the value of damages avoided for a small emission reduction (i.e. the benefit of a CO₂ reduction).” *See* Exhibit 10 to Guardians’ June 14, 2016 Comments, EPA, “Fact Sheet: Social Cost of Carbon” (Nov. 2013) at 1, available online at <http://www.epa.gov/climatechange/Downloads/EPAactivities/scc-fact-sheet.pdf>. The protocol was developed by a working group consisting of several federal agencies, including the U.S. Department of Agriculture, EPA, CEQ, and others.

In 2009, an Interagency Working Group was formed to develop the protocol and issued final estimates of carbon costs in 2010. *See* Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (Feb. 2010), available online at <https://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/Social-Cost-of-Carbon-for-RIA.pdf>. These estimates were then revised in 2013 by the Interagency Working Group, which at the time consisted of 13 agencies. *See* Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (May 2013), available online at https://www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf. This report and the social cost of carbon estimates were again revised in 2015. *See* Exhibit 13 to Guardians’ June 14, 2016 Comments, Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (July 2015), available online at <https://www.whitehouse.gov/sites/default/files/omb/inforeg/scc-tsd-final-july-2015.pdf> (last accessed Dec. 15, 2015).

Depending on the discount rate and the year during which the carbon emissions are produced, the Interagency Working Group estimates the cost of carbon emissions, and therefore the benefits of reducing carbon emissions, to range from \$11 to \$220 per metric ton of carbon dioxide. *See* Chart Below. In its most recent update to the Social Cost of Carbon Technical Support Document, the White House’s central estimate was reported to be \$36 per metric ton. *See* Exhibit 6 to this Protest, White House, “Estimating the Benefits from Carbon Dioxide Emissions Reductions,” website available at <https://www.whitehouse.gov/blog/2015/07/02/estimating-benefits-carbon-dioxide-emissions-reductions>. In July 2014, the U.S. Government Accountability Office (“GAO”) confirmed that the Interagency Working Group’s estimates were based on sound procedures and methodology. *See* Exhibit 16 to Guardians’ June 14, 2016 Comments, GAO, “Regulatory Impact Analysis,

Development of Social Cost of Carbon Estimates,” GAO-14-663 (July 2014), available online at <http://www.gao.gov/assets/670/665016.pdf>.

Revised Social Cost of CO₂, 2010 – 2050 (in 2007 dollars per metric ton of CO₂)

Discount Rate Year	5.0% Avg	3.0% Avg	2.5% Avg	3.0% 95th
2010	10	31	50	86
2015	11	36	56	105
2020	12	42	62	123
2025	14	46	68	138
2030	16	50	73	152
2035	18	55	78	168
2040	21	60	84	183
2045	23	64	89	197
2050	26	69	95	212

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

Although often utilized in the context of agency rulemakings, the protocol has been recommended for use and has been used in project-level decisions. For instance, the EPA recommended that an EIS prepared by the U.S. Department of State for the proposed Keystone XL oil pipeline include “an estimate of the ‘social cost of carbon’ associated with potential increases of GHG emissions.” Exhibit 14 to Guardians’ June 14, 2016 Comments, EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011).

More importantly, the BLM, even in Montana, has also utilized the social cost of carbon protocol in the context of oil and gas approvals. In recent Environmental Assessments for oil and gas leasing in Montana, the agency estimated “the annual SCC [social cost of carbon] associated with potential development on lease sale parcels.” Exhibit 2 to this Protest at 76. In conducting its analysis, the BLM used a “3 percent average discount rate and year 2020 values,” presuming social costs of carbon to be \$46 per metric ton. *Id.* Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be “\$38,499 (in 2011 dollars).” *Id.* In Idaho, the BLM also utilized the social cost of carbon protocol to analyze and assess the costs of oil and gas leasing. Using a 3% average discount rate and year 2020 values, the agency estimated the cost of carbon to be \$51 per ton of annual CO₂e increase. *See* Exhibit 4C to Guardians’ June 14, 2016 Comments at 81. Based on this estimate, the agency estimated that the total carbon cost of developing 25 wells on five lease parcels to be \$3,689,442 annually. *Id.* at 83.

To be certain, the social cost of carbon protocol presents a conservative estimate of economic damages associated with the environmental impacts climate change. As the EPA has noted, the protocol “does not currently include all important [climate change] damages.” Exhibit 10 to Guardians’ June 14, 2016 Comments. As explained:

The models used to develop [social cost of carbon] estimates do not currently include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature because of a lack of precise information on the

nature of damages and because the science incorporated into these models naturally lags behind the most recent research.

Id. In fact, more recent studies have reported significantly higher carbon costs. For instance, a report published this month found that current estimates for the social cost of carbon should be increased six times for a mid-range value of \$220 per ton. *See* Exhibit 12 to Guardians' June 14, 2016 Comments, Moore, C.F. and B.D. Delvane, "Temperature impacts on economic growth warrant stringent mitigation policy," *Nature Climate Change* (January 12, 2015) at 2. In spite of uncertainty and likely underestimation of carbon costs, nevertheless, "the SCC is a useful measure to assess the benefits of CO₂ reductions," and thus a useful measure to assess the costs of CO₂ increases. Exhibit 10 to Guardians' June 14, 2016 Comments.

That the economic impacts of climate change, as reflected by an assessment of social cost of carbon, should be a significant consideration in agency decisionmaking, is emphasized by a recent White House report, which warned that delaying carbon reductions would yield significant economic costs. *See* Exhibit 7 to this Protest, Executive Office of the President of the United States, "The Cost of Delaying Action to Stem Climate Change" (July 2014), available online at https://www.whitehouse.gov/sites/default/files/docs/the_cost_of_delaying_action_to_stem_climate_change.pdf. As the report states:

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

Id. at 1.

The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA, specifically supported in federal case law. As explained, NEPA requires agencies to analyze the consequences of proposed agency actions and consider include direct, indirect, and cumulative consequences. In terms of oil and gas leasing, an analysis of site-specific impacts must take place at the lease stage and cannot be deferred until after receiving applications to drill. *See New Mexico ex rel. Richardson v. Bureau of Land Management*, 565 F.3d 683, 717-18 (10th Cir. 2009); *Conner v. Burford*, 848 F.2d 1441 (9th Cir.1988); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1227 (9th Cir.1988).

To this end, courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the U.S. Court of Appeals for the Ninth Circuit ordered the National Highway Traffic Safety Administration to include a monetized benefit for carbon emissions reductions in an Environmental Assessment prepared under NEPA. *Center for Biological Diversity v. National Highway Traffic Safety Administration*,

538 F.3d 1172, 1203 (9th Cir. 2008). The Highway Traffic Safety Administration had proposed a rule setting corporate average fuel economy standards for light trucks. A number of states and public interest groups challenged the rule for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions. The Administration had monetized the employment and sales impacts of the proposed action. *Id.* at 1199. The agency argued, however, that valuing the costs of carbon emissions was too uncertain. *Id.* at 1200. The court found this argument to be arbitrary and capricious. *Id.* The court noted that while estimates of the value of carbon emissions reductions occupied a wide range of values, the correct value was certainly not zero. *Id.* It further noted that other benefits, while also uncertain, were monetized by the agency. *Id.* at 1202.

More recently, a federal court has done likewise for a federally approved coal lease. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. *See High Country Conservation Advocates v. U.S. Forest Service*, 52 F.Supp.3d 1174 (D. Colo. 2014), citing 40 C.F.R. § 1502.23. However, when an agency prepares a cost-benefit analysis, “it cannot be misleading.” *Id.* at 1182 (citations omitted). In that case, the NEPA analysis included a quantification of benefits of the project. However, the quantification of the social cost of carbon, although included in earlier analyses, was omitted in the final NEPA analysis. *Id.* at 1196. The agencies then relied on the stated benefits of the project to justify project approval. This, the court explained, was arbitrary and capricious. *Id.* Such approval was based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country. *Id.*

Most recently, the U.S. Court of Appeals for the 7th Circuit solidly upheld the federal government’s consideration of climate costs to society when assessing the overall costs and benefits of an action. *See Exhibit 8 to this Protest, Zero Zone, Inc., et al. v. U.S. Department of Energy*, No. 14-2147, slip op. (7th Cir. 2016).

A recent op-ed in the New York Times from Michael Greenstone, the former chief economist for the President’s Council of Economic Advisers, confirms that it is appropriate and acceptable to calculate the social cost of carbon when reviewing whether to approve fossil fuel extraction. *See Exhibit 9 to this Protest, Greenstone, M., “There’s a Formula for Deciding When to Extract Fossil Fuels,” New York Times* (Dec. 1, 2015), available online at http://www.nytimes.com/2015/12/02/upshot/theres-a-formula-for-deciding-when-to-extract-fossil-fuels.html?_r=0.

In light of all this, it appears more than reasonable to have expected the BLM to take into account carbon costs as part of its NEPA analyses. The agency did not. Instead, the BLM rejected the notion that analyzing climate impacts was even possible, implicitly concluding that there would be no climate impacts and no climate costs associated with the proposed oil and gas leasing. This renders the EA fatally flawed and unable to support a FONSI.

In response to WildEarth Guardians’ comments regarding social cost of carbon, the BLM argued in the Hiline EA that it was not required to prepare a cost-benefit analysis and that, “The NEPA analysis prepared for this proposed action does not include monetary estimates of any benefits or costs.” Hiline EA at Appendix E, unnumbered p. 3. This is a completely false

statement. The Hiline EA actually discloses a number of monetary estimates of economic benefits, disclosing, for example, that leasing in the District is estimated to generate “\$12.9 million in federal revenue, with approximately \$1.9 million being returned to the counties in which rents and royalties were generated.” Hiline EA at unnumbered p. 59. The EA also includes a chart of estimated revenue that would be generated if 50%, 75%, and 100% of the proposed leases are sold in the District. *See id.* at unnumbered p. 61. The Hiline EA very clearly includes monetary estimates of benefits.⁷

The EA, however, makes no attempt to disclose any costs. While the BLM is not obligated to conduct a cost-benefit analysis under NEPA, the agency cannot disclose economic benefits without making some effort to disclose economic costs. Importantly, the agency cannot disclose economic benefits in its NEPA analysis, then lie to the public and claim that its EA does not disclose any “monetary estimates of any benefits or costs” in an attempt to avoid disclosing any economic costs. This is the hallmark of a capricious action.

BLM’s response, however, ignores the fact that social cost of carbon isn’t solely a means of monetizing the potential climate costs of its proposed action, it is also a means of properly assessing the significance of the climate impacts of its action. Here, a social cost of carbon analysis would have provided a useful measure of significance for the public and the decisionmaker, shedding clearer light on just how bad—or how good—the proposed leasing may be from a climate standpoint. Simply because it requires a calculation of “dollars” does not, under NEPA, mean that the agency is now somehow thrust into preparing an unwieldy, useless, or unnecessary cost-benefit analysis. Here, the gist of the BLM’s response seems to be that the agency simply won’t like what the results of its analysis will mean. However, simply because an agency dislikes the outcome of an environmental analysis does not allow it to forego its duty under NEPA.

The failure of the BLM to analyze and assess the social cost of carbon indicates that the agency failed to appropriately analyze and assess the climate impacts of the proposed leasing, further undermining any assertion that a FONSI is appropriate.

3. The BLM Failed to Appropriately Analyze and Assess Impacts to Sage Grouse

We further specifically protest Parcels MTM 102757-6K, G3, G4, G6, G7, GW, J7, J8, J9, KA, KB, KC, KE, Q3, QH, QJ, QK, QL, QM, QN, QQ, QU, and RM; MTM 105431- FL, FM, FN, FP, FQ, FT, FU, FV, FW, FR, H3, and K4; and MTM 79010-7J, A2, B9, C1, FB, ZJ, ZR, and ZS, which appear to be completely or partially within sage grouse General Habitat Management Areas (“GHMAs”) according to our map screening information. The Hiline EA implies that only 15 parcels are located within sage grouse habitat (EA at 1), presumably excluding the 43 GHMA parcels listed above. According to BLM, “No lease parcels located within Priority Habitat Management Areas or General Habitat Management Areas are being offer [sic] in this lease sale.” Hiline EA, Appendix E at unnumbered p. 4. Furthermore, “It is the State

⁷ The May 2016 Miles City EA relied upon in the Miles City DNA similarly discloses monetized economic benefits with no consideration of any environmental costs, most importantly carbon costs. *See* May 2016 Miles City EA at 47.

Director's discretion to not carry forward parcels within sage-grouse habitat pending implementation guidance on the 2015 approved Hiline District Resource Management Plan." Hiline EA at unnumbered p. 8. While we concur with the need to defer parcels in these two categories, it remains clear that BLM chose not to implement this commitment in the leases to be nominated. *See* Hiline EA at Appendix A.

We remain concerned that sage grouse stipulations prescribed in BLM land-use plan amendments and revisions to protect greater sage grouse are scientifically unsound, legally invalid, and fail to grant an adequate level of protection to allow for the survival of greater sage grouse in the context of development on oil and gas leases, and therefore protest these parcels. Under BLM's greater sage grouse plan amendments and revisions, the agency made an explicit commitment to prioritize oil and gas leasing and development outside PHMAs (which include SFAs) and GHMAs. Particularly relevant to this lease sale:

"Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMA and GHMA. When analyzing leasing and authorizing development of fluid mineral resources, including geothermal, in PHMA and GHMA, and subject to applicable stipulations for the conservation of Greater Sage-Grouse, priority will be given to development in non-habitat areas first and then in the least suitable habitat for Greater Sage-Grouse. " Hiline Approved RMP at 3-13.

To comply with this direction, BLM should require leaseholders to diligently explore for and develop all existing fluid mineral leases, prioritizing those outside sage grouse habitats, before any new leases are offered at auction inside designated sage grouse habitats. Thus, all sage grouse parcels in PHMA and GHMA, including the parcels listed above, should be removed from the auction.

BLM states,

The September 2015 Record of Decision and Approved Resource Management Plan for Miles City Field Office requires prioritization of oil and gas leasing and development outside of identified sage-grouse Priority Habitat Management Areas and General Habitat Management Areas. The BLM is developing an Instruction Memorandum with guidance for the Miles City Field Office (MCFO) on how to best implement this objective from the September 2015 Record of Decision and Approved Resource Management Plan. This guidance has not been issued in time for the October 18, 2016 lease sale review; the IM needs to be issued before the MCFO develops alternatives and analyzes impacts for nominated lands within these areas. Therefore, it is the State Director's discretion to not carry forward 126 parcels nominated within sage grouse habitat pending implementation guidance on the 2015 Approved MCFO Resource Management Plan.

Miles City DNA at 2. Similar direction exists for sage grouse parcels in the Hiline District. Original Hiline EA at unnumbered 8. We agree with the decision not to offer these parcels for lease, but the listed GHMA parcels should be deferred also.

The Hiline EA does not include any site-specific analysis on the impacts of oil and gas drilling on sage grouse inhabiting designated GHMA areas. Each of the oil and gas leases is eligible for the siting of at least one wellsite, yet BLM has not undertaken site-specific analyses for these parcels documenting how close each one is to sage grouse leks, nesting habitats in the 3.1-5 miles surrounding the leks, and/or winter concentration areas. This is a violation of NEPA's hard look requirements. Some of the leases listed above, inside GHMAs, are inside areas designated as oil and gas units or participating in communitization agreements, yet for each of these leases BLM notes that joinder in the unit or communitization agreement is not required should the lease be purchased. See Hiline EA at Appendix A. Thus, the possibility remains of a wellsite being sited on each of these leases as well. This results in reasonably foreseeable site-specific impacts to greater sage grouse and their most sensitive habitats that remain to be analyzed in a NEPA document.

We agree with BLM's recommendations to defer the offering of certain parcels in the Lease EA and DNA, which fall entirely or partially within sage grouse PHMA habitats. It is a wise decision to defer the long-term commitment of mineral leases in areas that are sensitive sage grouse habitats. This is consistent with the Presidential Memorandum of November 6, 2015 titled "Mitigating Impacts on Natural Resources From Development and Encouraging Related Private Investment," which directs federal agencies "to avoid and then minimize harmful effects to land, water, wildlife, and other ecological resources (natural resources) caused by land- or water-disturbing activities... ." 80 Fed. Reg. 68743, 68744. This Presidential Memorandum also directs agencies to identify areas "where natural resource values are irreplaceable"; sage grouse habitats clearly fall into this category, as there is no demonstrated possibility of creating or restoring sage grouse habitats once they have been destroyed due to the fragility and long recovery times of the sagebrush habitats upon which the grouse depend.

We request that all parcels listed above be deferred from the lease sale for the same reasons. BLM should do its best to keep largely unleased areas of public land in designated sage grouse habitats unleased, regardless of mineral ownership patterns. Since 1965, grouse populations have declined significantly, and these declines continue in recent years, with the risk of sage grouse extirpation a sizeable threat over large portions of the species' range.⁸ These declines are attributable at least in part to habitat loss due to mining and energy development and associated roads, and to habitat fragmentation due to roads and well fields. Oil and gas development poses perhaps the greatest threat to sage grouse viability in the region. The area within 5.3 miles of a sage grouse lek is crucial to both the breeding activities and nesting success of local sage grouse populations. In a study near Pinedale, Wyoming, sage grouse from disturbed leks where gas development occurred within 3 km of the lek site showed lower nesting rates (and

⁸ Garton, E.O., A.G. Wells, J.A. Baumgardt, and J.W. Connelly. 2015. Greater sage-grouse population dynamics and probability of persistence. Final Report to Pew Charitable Trusts, 90 pp. Online at <http://www.pewtrusts.org/~media/assets/2015/04/garton-et-al-2015-greater-sagegrouse-population-dynamics-and-persistence-31815.pdf>.

hence lower reproduction), traveled farther to nest, and selected greater shrub cover than grouse from undisturbed leks.⁹ According to this study, impacts of oil and gas development to sage grouse include (1) direct habitat loss from new construction, (2) increased human activity and pumping noise causing displacement, (3) increased legal and illegal harvest, (4) direct mortality associated with reserve pits, and (5) lowered water tables resulting in herbaceous vegetation loss. These impacts have not been thoroughly evaluated with full NEPA analysis.

BLM's failure to note which parcels in the October 2016 EA and DNA that overlap with sage grouse GHMAs is a failure of NEPA's baseline information and hard look requirements. All portions of these parcels falling within GHMAs should be deferred as well, in order to implement the Mitigation Policy outlined earlier in these comments. The scientific information outlined elsewhere in these comments applies equally to GHMA, and the potential for significant impacts to sage grouse lek populations from oil and gas development springing from this lease sale is just as legally required in GHMA as in PHMA or SFA areas. These parcels should be deferred from the lease auction to protect sage grouse general habitats for consistency with BLM State Director direction (Hiline EA at unnumbered 8), and to fully implement sage grouse RMP revision decisions for consistency with the RMP pursuant to FLPMA.

In particular, the 0.25-mile 'No Surface Occupancy' buffers and 2-mile Timing Limitation Stipulations prescribed for GHMAs under BLM plans have explicitly been tested and found to result in significant negative impacts to sage grouse populations in the context of oil and gas development.¹⁰ According to Apa et al. (2008), "Buffer sizes of 0.25 mi., 0.5 mi., 0.6 mi., and 1.0 mi. result in estimated lek persistence of 5%, 11%, 14%, and 30%."¹¹ BLM's own NEPA analysis for a recent Miles City Field Office oil and gas leasing EA¹² provides a thorough synopsis:

"Sage grouse are offered species specific protections through a stipulation. Under Alternative B, ¼ mile NSO buffers and 2 mile timing buffers would apply where relevant. Based on research, these stipulations for sage grouse are considered ineffective to ensure that sage grouse can persist within fully developed areas. With regard to existing restrictive stipulations applied by the BLM, (Walker et al. 2007a) research has demonstrated that the 0.4-km (0.25 miles) NSO lease stipulation is insufficient to conserve breeding sage-grouse populations in fully

⁹ Lyon, A.G. 2000. The potential effects of natural gas development on sage-grouse (*Centrocercus urophasianus*) near Pinedale, Wyoming. M.S. Thesis, Univ. of Wyoming, 121 pp.

¹⁰ Holloran 2005.

¹¹ Apa, T., J. Bohne, T. Christiansen, J. Herbert, B. James, R. Northrup, D. Olsen, A. Robinson, P. Schnurr, T.O. Smith, and B. Walker. 2008. Using the Best Available Science to Coordinate Conservation Actions that Benefit Greater Sage-grouse Across States Affected by Oil & Gas Development in Management Zones I-II (Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming). Unpublished multi-state report of game and fish agencies, 10 pp. Online at http://www.ourpubliclands.org/files/upload/ti-State_ScienceGroupDocument_FINAL_01-28-08.pdf.

¹² Miles City October 2014 Oil and Gas Leasing EA, Environmental Assessment DOI-BLM-MT-C020-2014-0091-EA, May 19, 2014 at 60.

developed gas fields because this buffer distance leaves 98 percent of the landscape within 3.2 km (2 miles) open to full-scale development. Full-field development of 98 percent of the landscape within 3.2 km (2 miles) of leks in a typical landscape in the Powder River Basin reduced the average probability of lek persistence from 87 percent to 5 percent (Walker et al. 2007a).

According to Walker et al. (2007),¹³

Current lease stipulations that prohibit development within 0.4 km of sage-grouse leks on federal lands are inadequate to ensure lek persistence and may result in impacts to breeding populations over larger areas. Seasonal restrictions on drilling and construction do not address impacts caused by loss of sagebrush and incursion of infrastructure that can affect populations over long periods of time.

In its 2010 Final Rule¹⁴ finding the greater sage grouse “warranted, but precluded” for listing under the Endangered Species Act, the U.S. Fish and Wildlife Service made the following observations based on the best available scientific and commercial information:

The rationale for using a 0.4-km (0.25-mi) buffer as the basic unit for active lek protection is not clear, as there is no support in published literature for this distance affording any measure of protection.... this distance appears to be an artifact from the 1960s attempt to initiate planning guidelines for sagebrush management and is not scientifically based (Roberts 1991).

In light of the overwhelming scientific evidence that the application of 0.25-mile NSO buffers and 2-mile timing stipulations are grossly inadequate to conserve sage grouse and their habitats in GHMA (or indeed elsewhere), BLM cannot rely on such current, scientifically unsound and invalid stipulations for the issuance of oil and gas leases in GHMA.

Many parcels are located within 5.3 miles of one or more active sage grouse leks. The lands within 5.3 miles of active leks are typically used for nesting,¹⁵ a sensitive life history period when sage grouse are sensitive to disturbance from oil and gas drilling and production activities. The current standard sage grouse stipulations that apply outside PHMAs are biologically inadequate, and their effectiveness has not been established by BLM. Indeed, scientific studies demonstrate that these mitigation measures fail to maintain sage grouse populations in the face of full-field development, and significant impacts in terms of displacement of sage grouse from otherwise suitable habitat as well as significant population

¹³ Walker, B.L., D.E. Naugle, and K.E. Doherty. 2007. Greater sage-grouse population response to energy development and habitat loss. *Journal of Wildlife Management* 71(8):2644-2654.

¹⁴ 75 Fed. Reg. 13978, March 23, 2010.

¹⁵ Holloran, M. J. and S. H. Anderson. 2005. Spatial distribution of Greater Sage-grouse nests in relatively contiguous sagebrush habitats. *Condor* 107(4): 742-752.

declines have been documented.¹⁶ BLM should not issue these sage grouse parcels unless a rigorous set of stipulations, far stronger than those provided in the EA (such as NSO stipulations), are applied to the parcels. This should include at minimum 4-mile No Surface Occupancy stipulations around active leks, in accordance with the recommendations of BLM's own subject-matter experts.¹⁷ If these stipulations are implemented together with even stronger measures for PHMAs and Connectivity Areas, the BLM could make a credible case that impacts from leasing would not result in significant impacts.

Outside PHMAs, current sage grouse lease stipulations provide an NSO stipulation of ¼ mile around active sage grouse leks. This is known to be an inadequate amount of protection for the lekking grouse during the breeding period, nevermind for hens nesting on lands surrounding the lek. Studies have shown that the majority of hens nest within 3 miles of a lek, and that a 5.3-mile buffer would encompass almost all nesting birds in some cases. For PHMAs, the most scientifically supportable metric for NSO buffers would be 2 miles from the lek to protect breeding activities (after Holloran 2005, finding impacts from post-drilling production extend 1.9 miles from the wellsite)⁴ and 5.3 miles to protect nesting birds, with the understanding that the impacts of drilling and production activity would extend into the NSO buffer area from wells arrayed along its edge.

Because leks sites are used traditionally year after year and represent selection for optimal breeding and nesting habitat, it is crucially important to protect the area surrounding lek sites from impacts. In his dissertation on the impacts of oil and gas development on sage grouse, Matthew Holloran stated, "current development stipulations are inadequate to maintain greater sage grouse breeding populations in natural gas fields."¹⁸ (Notably, these exact stipulations are being applied by BLM in this lease sale for GHMA sage grouse habitat parcels). The area within 5.3 miles of a sage grouse lek is crucial to both the breeding activities and nesting success of local sage grouse populations. At minimum, the prohibition of surface disturbance within 4 miles of a sage grouse lek is the absolute minimum starting point for sage grouse conservation.

Other important findings on the negative impacts of oil and gas operations on sage grouse and their implications for the species are contained in three studies recently accepted for

¹⁶ Walker, B.L., D.E. Naugle, and K.E. Doherty. 2007. Greater sage-grouse population response to energy development and habitat loss. *Journal of Wildlife Management* 71(8):2644-2654; *see also* Apa, T., J. Bohne, T. Christiansen, J. Herbert, B. James, R. Northrup, D. Olsen, A. Robinson, P. Schnurr, T.O. Smith, and B. Walker. 2008. Using the Best Available Science to Coordinate Conservation Actions that Benefit Greater Sage-grouse Across States Affected by Oil & Gas Development in Management Zones I-II (Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming). Unpublished multi-state report of game and fish agencies, 10 pp. Online at http://www.ourpubliclands.org/files/upload/ti-State_ScienceGroupDocument_FINAL_01-28-08.pdf.

¹⁷ Sage-grouse National Technical Team. 2011. A Report on National Greater Sage-grouse Conservation Measures. Available at www.blm.gov/pgdata/etc/medialib/blm/co/programs/wildlife.Par.73607.File.dat/GrSG%20Tech%20Team%20Report.pdf.

¹⁸ M. Holloran. Dec. 2005. Greater Sage-Grouse Population Response to Natural Gas Field Development in Western Wyoming, at 57.

publication.¹⁹ Sage grouse mitigation measures have been demonstrated to be ineffective at maintaining this species at pre-development levels in the face of oil and gas development by Holloran (2005) and Naugle et al. (2006). This latter study found an 85% decline of sage grouse populations in the Powder River Basin of northeastern Wyoming since the onset of coalbed methane development there. BLM has repeatedly failed to provide any analysis, through field experiments or literature reviews, examining the effectiveness of the standard quarter-mile buffers where disturbance would be “avoided.” There is substantial scientific information in recent studies describing the impacts of oil and gas development to sage grouse. It is incumbent upon BLM to consider the most recent scientific evidence regarding the status of this species and to develop mitigation measures which will ensure the species is not moved toward listing under the Endangered Species Act. It is clear from the scientific evidence that the current protections are inadequate and are contributing to the further decline of the bird’s populations. This information constitutes significant new information that requires amendment of the Resource Management Plans before additional oil and gas leasing can move forward.

State agency biologists have reached a consensus that the Timing Limitation Stipulations proposed for sage grouse in this lease sale are ineffective in the face of standard oil and gas development practices.²⁰ These stipulations have likewise been condemned as inadequate by the U.S. Fish and Wildlife Service and renowned sage grouse expert Dr. Clait Braun. The BLM itself has been forced to admit that “New information from monitoring and studies indicate that current RMP decisions/actions may move the species toward listing...conflicts with current BLM decision to implement BLM’s sensitive species policy” and “New information and science indicate 1985 RMP Decisions, as amended, may not be adequate for sage grouse.”²¹ Continued application of stipulations known to be ineffective in the face of strong evidence that they do not work, and continuing to drive the sage grouse toward ESA listing in violation of BLM Sensitive Species policy, is arbitrary and capricious and an abuse of discretion under the Administrative Procedures Act.

The restrictions contained in the recent Resource Management Plan Amendments and revisions are scientifically unsound and ineffective. Within PHMAs, the plans allow surface disturbing activity and surface occupancy just six tenths (0.6) of a mile from occupied sage-

¹⁹ Doherty, K.E., D.E. Naugle, B.L. Walker, and J.M. Graham. 2008. Greater sage-grouse winter habitat selection and energy development. *Journal of Wildlife Management* 72:187-195.

Walker, B.L., D.E. Naugle, and K.E. Doherty. 2007. Greater sage-grouse population response to energy development and habitat loss. *Journal of Wildlife Management* 71:2644-2654.

Walker, B.L., D.E. Naugle, K.E. Doherty, and T.E. Cornish. 2007. West Nile virus and greater sage-grouse: estimating infection rate in a wild bird population. *Avian Diseases* 51:In Press.

²⁰ Apa, T., J. Bohne, T. Christiansen, J. Herbert, B. James, R. Northrup, D. Olsen, A. Robinson, P. Schnurr, T.O. Smith, and B. Walker. 2008. Using the Best Available Science to Coordinate Conservation Actions that Benefit Greater Sage-grouse Across States Affected by Oil & Gas Development in Management Zones I-II (Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming). Unpublished multi-state report of game and fish agencies, 10 pp. Online at http://www.ourpubliclands.org/files/upload/ti-State_ScienceGroupDocument_FINAL_01-28-08.pdf.

²¹ Sage grouse plan amendment land user information meeting PowerPoint, available online at http://www.blm.gov/pgdata/etc/medialib/blm/wy/information/NEPA/bfodocs/sagegrouse.Par.94571.File.dat/May28_InfoMtg.pdf.

grouse leks, a far cry from the science-based 4-mile buffer recommended by the BLM's own National Technical Team, and inconsistent with the findings of Manier et al. (2014), who described the range of appropriate lek buffers as 3.1 to 5 miles.²² By acreage, a 0.6-mile buffer encompasses less than 4% of the nesting habitat contained within the 4-mile buffer recommended by agency experts, and therefore does essentially nothing to protect sensitive nesting habitats. Even less protective, restrictions outside PHMA or Connectivity Areas allow surface disturbing activities and surface occupancy as close as one quarter (0.25) of a mile from leks.²³ BLM has too great an abundance of data to the contrary to continue with scientifically unsound stipulations. BLM should apply the recommendations of the National Technical Team instead, and in the meantime defer leasing until these recommendations can be formally adopted through the plan amendment/revision process.

The vague stipulations included in BLM's Hiline EA and Miles City DNA for particular parcels do little to clarify to the interested public or potential lessees what restrictions might actually apply to protect sage grouse populations. For example, for some parcels, BLM imposes a Timing Limitation Stipulation and a Controlled Surface Use Stipulation. Such acceptable plans for mitigation of anticipated impacts must be prepared prior to issuing the lease in order to give the public full opportunity to comment, and to abide by the Department of Interior's stated new policy to complete site-specific environmental review at the leasing stage, not the APD stage. Without site-specific review and opportunity for comment, neither the public nor potential lessees can clearly gauge how restrictive or lax "acceptable plans for mitigation" might be, and whether they comply with federal laws, regulations, and agency guidelines and policies. Thus, absent such review, the leases should not issue at all.

BLM has the scientific information needed to recognize that any use of these parcels will result in further population declines, propelling the sage grouse toward a listing under the Endangered Species Act, a ruling that is slated to be revisited in 2020. Again, it is in all interested parties favor (conservation groups, potential lessees, BLM and other federal agencies) for BLM to determine specific "modifications" prior to issuing leases, such as NSO restrictions. If the BLM fails to do so through site-specific environmental review before the APD stage, the agency will not adhere to the directive of Secretary Salazar and the Department of Interior's announced leasing reforms.

No parcels which contain sage grouse leks, nesting habitat, breeding habitat, wintering habitat and brood-rearing habitat should be offered at auction. We request that these parcels be withdrawn from the lease sale. Failing withdrawal of the parcels, parcel-by-parcel NEPA analysis should occur (we have seen no evidence of this in the EA in question), and 4-mile NSO buffer stipulations must be placed on all lease parcels with sage grouse leks. It is critical that these stipulations be attached at the leasing stage, when BLM has the maximum authority to restrict activities on these crucial habitats for the protection of the species, and that no exceptions to the stipulations be granted. BLM's failure to do so will permit oil and gas development

²² Manier, D.J., Bowen, Z.H., Brooks, M.L., Casazza, M.L., Coates, P.S., Deibert, P.A., Hanser, S.E., and Johnson, D.H. 2014. Conservation buffer distance estimates for Greater Sage-Grouse—A review: U.S. Geological Survey Open-File Report 2014-1239, 14 p., <http://dx.doi.org/10.3133/ofr20141239>.

²³ *Id.*

activities which will contribute to declining sage grouse populations and ultimately listing by the U.S. Fish and Wildlife Service as a threatened or endangered species, in violation of BLM's duty to take all actions necessary to prevent listing under its Sensitive Species Manual.

We remain concerned that development activities on the sage grouse parcels noted above will result in significant impacts to sage grouse occupying these parcels and/or the habitats nearby, and the BLM's programmatic NEPA underlying this lease sale does not adequately address these significant impacts.

The parcels protested in this section are entirely or partially within PHMAs and GHMAs designated for sage grouse protection. In addition to the concerns outlined above, these parcels cannot be legally offered for sale because the Resource Management Plan and EIS underlying them contain significant legal deficiencies. In the past, BLM has noted that the deferral of sage grouse PHMA is largely responsible for overall reductions in PHMA acreage leased and therefore reduced threats to sage grouse:

The relatively subdued pace of new leasing in Core Areas is the direct result of the application of the BLM's sage-grouse leasing screen, whereby many parcels in recent sales have been deferred from sale until the sage-grouse RMP amendments and ongoing plan revisions are completed.

Wind River – Bighorn Basin [WY] August 2015 Lease EA at 4-44, and see graph on same page. The cessation of deferral for PHMAs in this lease auction will reverse this progress.

Since the greater sage grouse is a BLM Sensitive Species and remains an open possibility for listing under the Endangered Species Act in 2020, the leasing of these lands under biologically inadequate stipulations is a violation of BLM Sensitive Species Policy, and constitutes undue degradation of sage grouse habitats and populations. Because alternate stipulations that are indeed biologically sufficient are available, and their implementation would avert significant impacts to sage grouse populations, the impacts incurred as a result of developing the leases in question are completely unnecessary.

The No Surface Occupancy stipulation of 0.6 miles surrounding lek locations is insufficient to prevent significant impacts to lek populations based on the best available science. No scientific study has ever recommended a 0.6-mile lek buffer. Holloran (2005) examined thresholds of distance from oil and gas wells and access roads (accessing 5 or more wellpads), and found that significant impacts to sage grouse lek populations occurred when a well or access road was sited within 1.9 miles of a sage grouse lek, irrespective of whether the intrusion was visible from the lek itself.²⁴ Manier et al. (2014) reviewed the available scientific literature and determined that buffers in the range of 3.1 to 5 miles from the lek were appropriate based on the

²⁴ M. Holloran. Dec. 2005. Greater Sage-Grouse Population Response to Natural Gas Field Development in Western Wyoming, at 57.

best available science.²⁵ A 0.6-mile NSO buffer does not fall within this range. The agency's own experts conducted an earlier review of the best available science (National Technical Team 2011) and recommended no future leasing in sage grouse Priority Habitats, and applying a 4-mile No Surface Occupancy buffer around leks for previously existing leases.

The recently adopted Greater Sage-Grouse RMP Amendments and Revised RMPs also prescribe the use of a Disturbance Density Calculation Tool (DDCT) or equivalent method (often called "project analysis area") to arrive at the density of wellsites as well as the overall disturbance percentage. Because the DDCT area is always much larger than the project area when sage grouse leks are present within 4 miles of the project area boundary, this method always underestimates the density of disturbances in cases where sage grouse breeding habitat is potentially affected by development. This allows a density of development inside the project area that far exceeds scientifically determined thresholds at which significant sage grouse population declines occur. No scientific study has ever tested what would be the thresholds of disturbance causing significant impacts to sage grouse populations using a DDCT. The National Technical Team (2011), by contrast, recommends that well and disturbance densities be calculated on a square-mile-section basis, not using a larger area.

Current stipulations to protect sage grouse from oil and gas-related noise are inadequate. Noise can mask the breeding vocalizations of sage grouse (Blickley and Patricelli 2012),²⁶ displaces grouse from leks (Blickley et al. 2012a),²⁷ and causes stress to the birds that remain (Blickley et al. 2012b).²⁸ According to Blickley et al. (2010),

The cumulative impacts of noise on individuals can manifest at the population level in various ways that can potentially range from population declines up to regional extinction. If species already threatened or endangered due to habitat loss avoid noisy areas and abandon otherwise suitable habitat because of a particular sensitivity to noise, their status becomes even more critical.

Noise must be limited to a maximum of 10 dBA above the ambient natural noise level after the recommendations of Patricelli et al. (2012); the ambient noise level in central Wyoming was found to be 22 dBA (Patricelli et al. 2012) and in western Wyoming it was found to be 15 dBA

²⁵ Manier, D.J., Bowen, Z.H., Brooks, M.L., Casazza, M.L., Coates, P.S., Deibert, P.A., Hanser, S.E., and Johnson, D.H. 2014. Conservation buffer distance estimates for Greater Sage-Grouse—A review: U.S. Geological Survey Open-File Report 2014-1239, 14 p., <http://dx.doi.org/10.3133/ofr20141239>.

²⁶ Blickley, J.L., and G.L. Patricelli. 2012. Potential acoustic masking of greater sage-grouse (*Centrocercus urophasianus*) display components by chronic industrial noise. *Ornith. Monogr.* 74: 23-35.

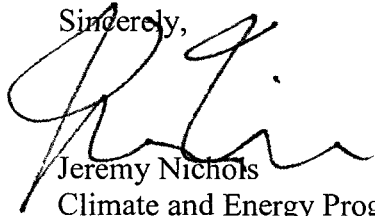
²⁷ Blickley, J.L., D. Blackwood, and G.L. Patricelli. 2012a. Experimental Evidence for the Effects of Chronic Anthropogenic Noise on Abundance of Greater Sage-Grouse at Leks. *Conserv. Biol.* 26:461-471.

²⁸ Blickley J.L., Word K.R., Krakauer A.H., Phillips J.L., Sells S.N., et al. 2012b. Experimental Chronic Noise Is Related to Elevated Fecal Corticosteroid Metabolites in Lekking Male Greater Sage-Grouse (*Centrocercus urophasianus*). *PLoS ONE* 7(11): e50462. doi:10.1371/journal.pone.0050462.

(Ambrose and Florian 2014, Ambrose 2015; Ambrose et al. 2015).²⁹ Exhibit 10 to this Protest provides a review of the relevant literature on noise including analysis that indicates sage grouse lek population declines once noise levels exceed the 25 dBA level. With this in mind, ambient noise levels should be defined as 15 dBA and allowable cumulative noise should be limited to 25 dBA in occupied breeding, nesting, brood-rearing, and wintering habitats, which equates to 10 dBA above the scientifically-derived ambient threshold.

In addition, it is critically important for BLM to identify and protect winter concentration areas. *See* Exhibit 11 to this Protest. Oil and gas development has known impacts on sage grouse (Doherty et al. 2008).³⁰ Thus far, the location of these habitats remains largely undetermined. These lands should be closed to fluid mineral leasing, with Conditions of Approval applying NSO stipulations inside and within 2 miles of these areas. The proposal to simply apply timing stipulations to these areas is insufficient because it allows construction of wellpads and roads known to be deleterious to wintering sage grouse inside these key habitats as long as construction/drilling occurs outside the winter season, and further allows production-related activities throughout winter. Thus, the sage grouse may return to their winter habitats to find an industrialized, fragmented habitat that no longer has any habitat function due to the birds' avoidance of such areas.

Sincerely,



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²⁹ Ambrose, S. 2015. Review of Greens Hollow Sound Study by Tetra Tech (2008), and Summary of Sound Level Measurements at Wildcat Knolls Lek, March 29-31, 2015. Unpublished report, 11 pp.; Ambrose, S., and C. Florian. 2014. Sound levels at greater sage-grouse leks, Pinedale Anticline Project Area, Wyoming, April 2013. Unpublished report prepared for the Wyoming Game and Fish Department, 133 pp. Available online at <http://www.wy.blm.gov/jio-papo/papo/wildlife/reports/sage-grouse/2013GSGacoustic-rpt.pdf>; Ambrose, S., C. Florian, and J. MacDonald. 2014. Sound levels at greater sage-grouse leks in the Pinedale Anticline Project Area, WY, April 2013-2014. Unpublished report prepared for the Wyoming Game and Fish Department, 79 pp.

³⁰ Doherty, K.E., D.E. Naugle, B.L. Walker, and J.M. Graham. 2008. Greater sage-grouse winter habitat selection and energy development. *J. Wildl. Manage.* 72:187-195.