Appendix F
Public Comments and Agency Response
DOI-BLM-WY-R000-2015-0002-EA

#	Comment By	Comment	Agency Response
1	Chris Culp	It is my understanding that these lease parcels have been deferred for the present time. But I would like to comment on the Parcel WY-1602-127. It is on T. 42 N. R. 95 W. 6th PM. I am not the land owner of this property, but own property that is the easiest access to the parcel in question. The reason I am writing this, is in the past, the person who had the lease, and I am sure will put in for the EOI on this parcel, we had a lot of problems with the whole ordeal. There is a major problem with access, the road to the lease is in extremely bad condition. I don't foresee giving access across our property as any equipment that would be required to do anything on the lease would have to go right through my yard, which is something I do Not want. It is a gravel road, and the last time an oil company went up there to drill, they had the road in such bad shape is was basically 10 inches of nothing but powdered dirt, and whenever the wind blew, which is quite a bit in Wyoming, you could see the dust come off the road for miles. Of which a bunch of it would end up in my house. And when they finished with the well, which didn't show any sign of being a producing well, they did nothing to clean up their mess and fix the road. It has since been graveled, but it would not stand up to the kind of equipment that would be required for any kind of development on the lease. I don't know if this lease will be up for EOI in August next year or not, but would like to be informed if it does, and if there will be a comment period on it. Chris Culp; Thermopolis, Wyoming	Thank you for your comments. An oil and gas lease does not grant the lessee access across private lands. If an access road across non-Federal lands is needed to access the location, the operator is responsible for obtaining permits or permissions from any other land management agency or private land owner. If a lease is issued and a permit to conduct construction or drilling operations is submitted to the BLM, under Onshore Order #1 the operator is responsible for making access arrangements with the appropriate Surface Managing Agency or private surface owner. In the Application for Permit to Drill package, the operator must indicate in a narrative the surface ownership at the well location, and of all lands crossed by roads that the operator plans to construct or upgrade, including, if known, the name of the agency or owner, phone number, and address. In order to inform the public about pending lease sales, the BLM provides notification of the availability to comment on Leasing EAs. This includes issuing press releases at the beginning of a comment period. Leasing EAs are made available for comment at:

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			http://www.blm.gov/wy/st/en/info/NEPA/documents/og-ea.html
2	Center for Biological Diversity (CBD) and Friends of the Earth (FoE)	I am submitting these comments on behalf of the Center for Biological Diversity and Friends of the Earth on the Environmental Assessment ("EA") for the February 2016 Competitive Lease Sale for the Wind River/Bighorn Basin District. 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 825,000 members and on-line activists, including those living in Wyoming who have visited these public lands in the Wind River/Bighorn Basin District 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. Friends of the Earth (FoE) is a non-profit environmental organization that fights to create a more healthy and just world. Our campaigns focus on promoting clean energy and solutions to climate change, ensuring the food we eat and products we use are safe and sustainable, and protecting marine ecosystems and the people who live and work near them. FoE is a membership organization consisting of over 33,000 members and over 440,000 activists nationwide. Many of our members and activists live, recreate, and pursue other activities in the Wind River/Bighorn Basin District of Wyoming and may be adversely	Thank you for your comments.

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		impacted by the proposed oil and gas leasing.	
3	CBD/FoE	For the reasons set forth below, this EA does not satisfy the requirements of NEPA, and the proposed lease sale would therefore violate the National Environmental Policy Act ("NEPA"), the Mineral Leasing Act ("MLA"), the Federal Lands Policy and Management Act ("FLPMA"), and the Endangered Species Act. BLM should produce a full Environmental Impact Statement for the lease sale. In particular, BLM's EA for the proposed lease sale, including parcels within the area managed by the Lander Field Office, fails to meet its obligations to consider foreseeable environmental impacts to Greater Sage-Grouse, including consideration of relevant and readily available scientific information, and fails to preserve the possibility of taking adequate regulatory action to protect that species from the adverse effects of oil and gas development. I. The BLM Arbitrarily Rejects Consideration of Reasonable Alternatives Deferring All Greater Sage-Grouse Core Area Habitat The "heart" of NEPA is an agency's obligation, in evaluating the environmental impacts of its actions, whether by EA or EIS, to consider all reasonable alternatives to those actions. See Center. for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1217 (9th Cir. Cal. 2008) (citing 40 C.F.R. § 1502.14(a)). The February 2016 Leasing EA fails to meet this core NEPA obligation by arbitrarily excluding from consideration any alternative that could meaningfully preserve BLM's Lander offices' authority to adopt effective and scientifically credible conservation measures for greater sage- grouse. The February 2016 leasing EA considers only three alternatives: (1) the No-Action Alternative; (2) Alternative 2, which would lease all proposed parcels, save for parcels outside the Lander FO to be deferred in whole or in part under Wyoming BLM's 2012 sage-grouse leasing guidance, EA 2-13; and (3)	All parcels for the proposed sale have been analyzed consistent with current policies (including the leasing reform policies provided in BLM Handbook H-1624-1) and are in conformance with the existing land use plans as required by 43 CFR 1610.5. Site specific NEPA analysis of lease operations will occur at the development stage, and will analyze resource conflicts and identify mitigation for specific impacts. In accordance with IM 2004-110, Change 1 and Lease Notice No. 3 applicable new standards/ mitigation/ stipulations coming forth from that process can be applied to post-lease actions (i.e., APDs, Sundry Notices, Rights-of-Way, etc.). As stated in the EA at 2-2: An alternative was considered that would defer all remaining parcels that are located within Sage Grouse core areas. This alternative was not carried forward into detailed analysis because it is not supported by IM WY-2012-019, Greater Sage-Grouse Habitat Management Policy on Wyoming Bureau of Land Management (BLM) Administered Public Lands Including the Federal Mineral Estate and IM WO-2012-043, Greater Sage-Grouse Interim Management Policies and Procedures and because it is already considered in the No Action

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		Alternative 3, which would defer 2,905 acres on five parcels "after the Sage-Grouse screening process," EA 2-13. The EA explicitly excludes from even considering, however, an alternative that would defer all remaining parcels located within sage grouse "core areas." EA 2-15. The EA states that "[t]his alternative was not carried forward into detailed analysis because it is not supported by IM WY- 2012-019, Greater Sage-Grouse Habitat Management Policy on Wyoming Bureau of Land Management (BLM) Administered Public Lands Including the Federal Mineral Estate and IM WO- 2012-043, Greater Sage-Grouse Interim Management Policies and Procedures or the Lander RMP, and because it is imbedded into the No Action Alternative." The rejection of a core area deferral alternative is arbitrary, capricious, and without support in law. As an initial matter, agencies may not reject an otherwise reasonable alternative out of hand simply because it shares some characteristics with the no-action alternative. See Colorado Environmental Coalition v. Salazar, 875 F. Supp.2d 1233, 1248-50 (D. Colo. 2012). Second, the BLM cannot rely on the guidance of two non-binding instruction memoranda as to what parcels should be deferred in order to bar consideration of a more protective alternative that would defer a greater portion of grouse habitat pending RMP revisions. The BLM Instruction Memoranda in question state that they are intended to provide guidance regarding consideration of grouse habitats until planning is completed; however, they explicitly provide that they do not preclude consideration of more protective or up-to-date measures: This policy does not preclude the development and immediate implementation of new, or innovative mitigation, or other conservation measures that would be expected to reduce activity/project impacts to sage-grouse and their habitats.	Alternative. Land Use Plans or Resource Management Plans (RMP) consider the availability of public lands for oil and gas leasing. This leasing EA addresses how those nominated parcels will be stipulated in conformance with the RMPs. If an Application for Permit to Drill is received proposing to develop a lease parcel, site specific analysis of the impacts is conducted and impacts will be mitigated as determined necessary.

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		IM WY-2012-019 at 8. The conclusory argument that deferral is "not supported" by the Instruction Memoranda is neither consistent with their terms, nor a valid reason for rejecting an otherwise reasonable alternative. Finally, as discussed in greater detail below, the argument that leasing of core sagegrouse habitat within the Lander FO is consistent with the revised Lander RMP simply ignores the compelling scientific evidence that the provisions of that RMP are inconsistent with the best available scientific information and insufficient to ensure the viability of the greater sage-grouse..	
4	CBD/FoE	II. The EA Improperly Limits its Analysis of Reasonably Foreseeable Environmental Impacts NEPA demands that a federal agency prepare an EIS before taking a "'major [f]ederal action[] significantly affecting the quality' of the environment." Kern v. U.S. Bureau of Land Mgmt., 284 F.3d 1062, 1067 (9th Cir. 2002). In order to determine whether a project's impacts may be "significant," an agency may first prepare an EA. 40 C.F.R. §§ 1501.4, 1508.9. If the EA reveals that "the agency's action may have a significant effect upon the . . . environment, an EIS must be prepared." Nat'l Parks & Conservation Ass'n v. Babbitt, 241 F.3d 722, 730 (9th Cir. 2001) (internal quotations omitted). If the agency determines that no significant impacts are possible, it must still adequately explain its decision by supplying a "convincing statement of reasons" why the action's effects are insignificant. Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1212 (9th Cir. 1998). Further, an agency must prepare all environmental analyses required by NEPA at "the earliest possible time." 40 C.F.R. § 1501.2. "NEPA is not designed to postpone analysis of an environmental consequence to the last possible moment," but is "designed to require such analysis as soon as it can reasonably be done." Kern, 284 F.3d at 1072.	All parcels for the February 2016 proposed sale are in conformance with the existing land use plans as required by 43 CFR 1610.5. Additionally, site specific NEPA analysis will occur at the development stage that will analyze resource conflicts and identify mitigation for specific impacts. In accordance with IM 20040-110, Change 1 and Lease Notice No. 3 applicable new standards/ mitigation/ stipulations coming forth from that process can be applied to post-lease actions (i.e., APDs, Sundry Notices, Rights-of-Way, etc.).

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		BLM has unlawfully restricted its NEPA analysis by arbitrarily limiting the scope of its analysis oil and gas activity that may result from the lease sale and by failing to analyze sufficiently site-specific impacts. NEPA regulations and caselaw require that BLM evaluate all "reasonably foreseeable" direct and indirect effects of its leasing. 40 C.F.R. § 1508.8; Davis v. Coleman, 521 F.2d 661, 676 (9th Cir. 975); Center for Biological Diversity, et al. v. Bureau of Land Management, et al., 2013 U.S. Dist. LEXIS 52432; 43 ELR 20076 (N.D. Cal. March 31, 2013) (holding that oil and gas leases were issued in violation of NEPA where BLM failed to prepare an EIS and unreasonably concluded that the leases would have no significant environmental impact because the agency failed to take into account all reasonably foreseeable development under the leases). The BLM, in its Wyoming February 2016 Lease Sale EA, arbitrarily refuses to consider sufficiently site-specific impacts. BLM indicates it does not have to consider some, or perhaps all, site-specific impacts because the exact extent of those impacts is unknown at this stage and subject to regulation at a later date. The lease sale, however, would result in impacts that BLM will not be able to avoid once the lease sale is finalized because the agency's ability to prevent lessees from engaging in lawful activities on issued leases will be limited. BLM regulations provide that lessees "have the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold subject to" limited conditions, including lease stipulations, "specific, nondiscretionary statutes," and limited "reasonable measures" that do not precluding all development activities. 43 C.F.R. § 3101.1-2 NEPA requires that an agency conduct all environmental analyses at "the	

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		earliest possible time." 40 C.F.R. § 1501.2; see also N.M. ex rel. Richardson v. Bureau of Land Mgmt., 565 F.3d 683, 718 (10th Cir. 2009). Here, this means that BLM must analyze all site-specific impacts now, before it has leased the land and is unable to prevent environmental impacts.	
5	CBD/FoE	III. The EA Fails to Disclose Impacts to Air Quality and Climate Change from Oil and Gas Leasing i. BLM has Failed to Adequately Analyze Air Pollution Impacts Oil and gas operations emit numerous air pollutants, including volatile organic compounds (VOCs), NO_X, particulate matter, hydrogen sulfide, and methane. However, BLM's EA fails to take a hard look at air pollution impacts. Oil and gas operations emit large amounts of VOCs and NO_X. VOCs make up about 3.5 percent of the gases emitted by oil or gas operations. The VOCs emitted include the BTEX compounds – benzene, toluene, ethyl benzene, and xylene – which Congress listed as Hazardous Air Pollutants. There is substantial evidence of the harm from these pollutants. With regard to NO_X, its primary sources are compressor engines, turbines, other engines used in drilling, and flaring. Further, both VOCs and NO_X are ozone precursors, and thus, due to emissions of these pollutants, many regions around the country with substantial oil and gas operations are now suffering from extreme ozone levels. A recent study of ozone pollution in the Uintah Basin of northeastern Utah, a rural area that experiences hazardous tropospheric ozone concentrations, found that oil and gas operations were responsible for 98 to 99 percent of VOCs and 57 to 61 percent of NO_X emitted from sources within the Basin considered in the study's inventory. Ozone can result in serious health conditions, including	Beyond the scope of this document. The February 2016 Oil and Gas Lease Sale is an administrative leasing action. The act of leasing land for oil and gas development in itself does not emit any carbon or greenhouse gasses, or air pollutants, nor cause climate change. A discussion of Air Quality and Climate Change have been addressed in the EA in part 3.3.1. Land Use Plans or Resource Management Plans (RMP) consider the availability of public lands for oil and gas leasing. This leasing EA addresses how those nominated parcels will be stipulated in conformance with the RMPs. If an Application for Permit to Drill is received proposing to develop a lease parcel, site specific analysis of the impacts is conducted and impacts will be mitigated as determined necessary. Absent a definitive development proposal it is not possible to conduct a more specific impact and/or cumulative effects analysis. BLM cannot determine at the leasing stage whether or not a

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		heart and lung disease and mortality. The oil and gas industry is also a major source of particulate matter. The heavy equipment regularly used burns diesel fuel, generating fine particulate matter. The particulate matter emitted by diesel engines is a particularly harmful. Vehicles also kick up fugitive dust, which is particulate matter, by traveling on unpaved roads. Further, both NOX and VOCs, which are heavily emitted by the oil and gas industry, are particulate matter precursors. Some of the health effects associated with particulate matter exposure are "premature mortality, increased hospital admissions and development of chronic respiratory disease." Oil and gas operations can also emit hydrogen sulfide. The hydrogen sulfide is contained in the natural gas and makes that gas "sour." Hydrogen sulfide may be emitted during all stages of operation, including exploration, extraction, treatment and storage, transportation, and refining. Long-term exposure to hydrogen sulfide is linked to respiratory infections, eye, nose, and throat irritation, breathlessness, nausea, dizziness, confusion, and headaches. Further, oil and gas operations emit significant amounts of methane. In addition to its role as a greenhouse gas, methane contributes to increased concentrations of ground-level ozone, the primary component of smog, because it is an ozone precursor. Methane's effect on ozone concentrations can be substantial. One paper modeled reductions in various anthropogenic ozone precursor emissions and found that "[r]educing anthropogenic CH_4 emissions by 50% nearly halves the incidence of U.S. high-O_3 events . . . ." Fracking results in additional air pollution that can create a severe threat to	nominated parcel will actually be leased, or if leased, whether or not the lease would be explored or developed or at what intensity development may occur. Additional NEPA compliance documentation would be prepared at the time an APD(s) or field development proposal is submitted. Thank you for your comments.

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		human health. One analysis found that 37 percent of the chemicals found at fracked gas wells were volatile, and that of those volatile chemicals, 81 percent can harm the brain and nervous system, 71 percent can harm the cardiovascular system and blood, and 66 percent can harm the kidneys. Also, the South Coast Air Quality Management District ("SCAQMD") has identified three areas of dangerous and unregulated air emissions from fracking: the mixing of the fracking chemicals, the use of the silica, or sand, as a proppant, which causes the deadly disease silicosis, and the storage of fracking fluid once it comes back to the surface. Preparation of the fluids used for well completion often involves onsite mixing of gravel or proppants with fluid, a process which potentially results in major amounts of particulate matter emissions. Further, these proppants often include silica sand, which increases the risk of lung disease and silicosis when inhaled. Finally, as flowback returns to the surface and is deposited in pits or tanks that are open to the atmosphere, there is the potential for organic compounds and toxic air pollutants to be emitted, which are harmful to human health as described above. BLM has failed to perform a sufficient analysis of the effects the lease sale could have on air quality. In fact, the agency allocates one brief paragraph to air quality impacts, and foregoes even a cursory attempt to quantify said impacts, demurring that "The amount of increased emissions cannot be quantified at this time since it is unknown how many wells might be drilled, the types of equipment needed if a well were to be completed successfully (e.g. compressor, separator, dehydrator), or what technologies may be employed by a given company for drilling any new wells." However, NEPA regulations and case law clearly establish that uncertainty about the precise extent and nature of environmental impacts does not relieve an agency of the obligation to disclose and analyze those impacts utilizing the best information available. See 40 C.F.R.	

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		§ 1502.22(a),(b). Further, BLM's analysis is lacking because the agency failed to identify numerous available methods for controlling air pollution emissions. This total failure violates NEPA's requirement that the agency identify mitigation measures, 40 C.F.R. § 1508.25, and consider all reasonable alternatives. Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1217 (9th Cir.Cal. 2008) (citing 40 C.F.R. § 1502.14(a)).	
6	CBD/FoE	ii. BLM has Failed to Analyze Adequately the Project's Climate Change Impacts NEPA's environmental analysis requirement includes consideration of climate change. See Center v. NHTSA, 538 F.3d at 12-16-17. Oil and gas operations are a major contributing factor to climate change, due both to emissions from the operations themselves, and emissions from the combustion of the oil and gas produced. Natural gas emissions are generally about 84 percent methane. Methane is a potent greenhouse gas that contributes substantially to global climate change. Its global warming potential is approximately33 times that of carbon dioxide over a 100 year time frame and 105 times that of carbon dioxide over a 20 year time frame. Oil and gas operations release large amounts of methane. While the exact amount is not clear, EPA has estimated that "oil and gas systems are the largest human-made source of methane emissions and account for 37 percent of methane emissions in the United States or 3.8 percent of the total greenhouse gas emissions in the United States." For natural gas operations, production	Beyond the scope of this document. The February 2016 Oil and Gas Lease Sale is an administrative leasing action. The act of leasing land for oil and gas development in itself does not emit any carbon or greenhouse gasses, or cause climate change. A discussion of Air Quality and Climate Change have been addressed in the EA in part 3.3.1. Land Use Plans or Resource Management Plans (RMP) consider the availability of public lands for oil and gas leasing. This leasing EA addresses how those nominated parcels will be stipulated in conformance with the RMPs. If an Application for Permit to Drill is received proposing to develop a lease parcel, site specific analysis of the impacts is conducted and impacts will be mitigated as determined necessary. Absent a definitive development proposal it is not possible to conduct a more specific impact and/or

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		generates the largest amount; however, these emissions occur in all sectors of the natural gas industry, from drilling and production, to processing, transmission, and distribution. Fracked wells leak an especially large amount of methane, with some evidence indicating that the leakage rate is so high that shale gas is worse for the climate than coal. In fact, a research team associated with the National Oceanic and Atmospheric Administration recently reported that preliminary results from a field study in the Uinta Basin of Utah suggest that the field leaked methane at an eye-popping rate of nine percent of total production. For the oil industry, emissions result "primarily from field production operations . . . , oil storage tanks, and production-related equipment . . . ." Emissions are released as planned, during normal operations and unexpectedly due to leaks and system upsets. Significant sources of emissions include well venting and flaring, pneumatic devices, dehydrators and pumps, and compressors. The EA improperly declines to analyze the contribution to climate change of additional Wyoming federal oil and gas leasing, instead dismissing those impacts with the assertion that "When compared to total national or global emissions, the amount released as a result of potential production from the proposed lease tracts would not have a measurable effect." EA 4-3. CEQ's climate change guidance, albeit currently in draft form, expressly rejects the use of this excuse to avoid consideration of climate change impacts. "providing a paragraph that simply asserts, without qualitative or quantitative assessment, that the emissions from a particular proposed action represent only a small fraction of local, national, or international emissions or are otherwise immaterial is not helpful to the decisionmaker or public." Council on Environmental Quality, Revised Draft Guidance for Greenhouse Gas Emissions	cumulative effects analysis. BLM cannot determine at the leasing stage whether or not a nominated parcel will actually be leased, or if leased, whether or not the lease would be explored or developed or at what intensity development may occur. Additional NEPA compliance documentation would be prepared at the time an APD(s) or field development proposal is submitted. Thank you for your comments.

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		and Climate Change Impacts 6 n.11 (2014). Instead, "agencies need to consider whether the reasonably foreseeable incremental addition of emissions from the proposed action, when added to the emissions of other relevant actions, is significant when determining whether GHG emissions are a basis for requiring preparation of an EIS." Id. 11-12. In the EA, BLM has not made even a cursory attempt at this determination. EA 4-31 ("It is unknown what the drilling density may be for these parcels, if they were developed; therefore, it is not possible to predict at this stage what level of emissions would occur."). The very purpose of oil and gas leasing is the production, and subsequent combustion, of hydrocarbon fossil fuels. It is simply not credible to assert in 2015 that BLM has no way of estimating a range of possible production levels for leases within established industry plays and currently producing geological formations. Although there are certainly geological, technological, and economic uncertainties that could affect the production from the leases in question, these uncertainties do not relieve BLM of the obligation to analyze and disclose, at the very least, a range of possible production scenarios and their resulting emissions.	
7	CBD/FoE	IV. The EA Fails to Acknowledge Scientific Information Regarding Conservation of Greater Sage-Grouse The greater sage-grouse was found to be "warranted, but precluded" for protections under the Endangered Species Act ("ESA") in 20102. In 2010 the Center filed lawsuits against the Fish and Wildlife Service ("FWS") seeking protections for the grouse, culminating in July 2011 with a landmark agreement with the FWS compelling the agency to move forward in the listing process for 757 species, including the bi-state sage-grouse and the greater sage-grouse. The best available science clearly supports listing the greater sage-grouse as a	Land Use Plans or Resource Management Plans (RMP) consider the availability of public lands for oil and gas leasing. This leasing EA addresses how those nominated parcels will be stipulated in conformance with the RMPs. If an Application for Permit to Drill is received proposing to develop a lease parcel, site specific analysis of the impacts is conducted and impacts will be mitigated as determined necessary. Lander parcels are offered with lease stipulations

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		threatened or endangered species given its continuing decline. The Center believes that given the current status and trends of the population of the greater sage-grouse and its habitats, that protections are needed under the ESA to ensure its recovery and long term viability. We base our conclusions on agencies' obligations under the ESA, policies including the Policy for Evaluating Conservation Efforts ("PECE Policy"), and an analysis of a wide range of scientific literature that constitutes the best available science on the species. The U.S. Fish and Wildlife (FWS) identified a lack of adequate regulatory mechanisms to conserve greater sage grouse as a primary factor necessitating listing of the species under the Endangered Species Act. The agency determined that the lack of existing regulatory protections was especially pronounced on public lands administered by the Bureau of Land Management (BLM) and the U.S. Forest Service. The FWS identified BLM resource management plans and Forest Service land and resource management plans as the principle mechanism by which these agencies could adequately regulate land management to conserve sage grouse, but determined that current plans lacked adequate measures and/or are inconsistently applied to conserve the species. As you know, BLM offices, including the Wind River/Bighorn Basin district, are currently in the process of amending their land use plans in order to adopt conservation measures for the species and sagebrush ecosystems. Of all the grouse-affecting land use plans throughout the west, only the Lander RMP has completed its revision; the remaining proposed plans are awaiting Records of Decision. Wyoming supports 35-40% of the entire population of greater sage-grouse and	in conformance with the approved RMP. The Sage-Grouse leasing screen was followed from IM 2012-019, and the Bighorn Basin parcels were properly screened following policy criteria and therefore were appropriately deferred, partially deferred, or recommended for sale.

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		is a source population for the more isolated grouse populations in Montana and the Dakotas. Since 2007, there has been an increase in the number of known inactive leks statewide, while the number of active leks has remained constant. At the same time, there has been a 60% decrease in the average number of males counted per lek statewide, indicating an overall statewide population decline of 60% from 2007 to 2013. This is cause for extreme concern, especially given the fact that there have been many wet springs during this period with above-average forb and cover production, which should have resulted in increases in sage grouse population numbers. This population decline is indicative of the insufficiency of present BLM Wyoming Instruction Memoranda and state Core Area Policy protections to halt the decline and promote the recovery of greater sage grouse across the state. This inadequacy is confirmed by Copeland et al. (2013) who projected further statewide declines across Wyoming with the implementation of current conservation strategies. The proposed lease sale, however, is particularly damaging to the future viability of greater sage- grouse because it would allow for new leasing of sage-grouse habitat within the Lander FO portion of the district, under management prescriptions that current science demonstrates to be conclusively inadequate for conservation of sage-grouse populations. Finally, because Wyoming contains the largest U.S. sage-grouse population and is an important source of sage-grouse in neighboring states, preservation of populations inhabiting the Wind River/Bighorn Basin and High Plains District is crucial to the sage-grouse's viability range-wide. A recent study modeling population trends shows that "most populations have continued to decline over the last 6 years reaching a low in 2013 below 50,000 males attending leks range- wide, an 8 fold decline from the late 1960s." Some of the largest declines occurred in the Wyoming Basin (including large parts of Wyoming) and the Great Plains Management Zone (including parts of northeastern Wyoming). "Overall persistence of the	

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		species into the far distant future is not assured or even likely without maintenance of the essential connectivity amongst populations and without substantial changes in the current trajectories of the populations occupying this broad region." The study confirms that existing management policies have not been effective in protecting sage-grouse. Stabilizing the Great Plains and Wyoming Basin populations could be a major step forward for preserving "essential connectivity amongst populations" and reversing declining trends. Great Plains Basin populations, which include populations in northeastern Wyoming, southern Montana, and the Dakotas are already at high risk of extinction, "unless recent patterns of decline change." On the other hand, Wyoming Basin populations perhaps have the best chance of recovery due to their larger size. These populations may also be more resilient against the threats of drought and wildfire, which will only increase with climate change. Recovering Wyoming Basin populations will maintain connectivity with Great Plains sage- grouse, helping to restore Great Plains populations and others. BLM must adopt the strongest possible measures to maximize the chance of preserving and recovering these Wyoming populations, or else risk far-reaching repercussions on the sage-grouse's survival throughout the west. a. BLM Did Not Disclose or Consider the Best Available Science Regarding Sage-Grouse Conservation BLM must consider implementing key sage grouse protections recommended by USFWS and the BLM's own National Technical Team (e.g., withdrawal of unleased areas in core sage-grouse habitat, a 4- mile no surface disturbance buffer as a Condition of Approval on current fluid mineral leases for active leks	

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		within Priority Habitats, apparently not considered in any alternative). Importantly, according to BLM, "The National Policy Team created the NTT in August of 2011 specifically to develop conservation measures based on the best available science." Since the publication of the NTT's findings, the United States Geological Survey has published two significant additional reports reviewing and evaluating the state of available scientific information regarding greater sage-grouse conservation. D.J. Manier et al, Summary of Science, Activities, Programs, and Policies that Influence the Rangewide Conservation of Greater Sage-Grouse (Centrocercus urophasianus), USGS Open File Report 2013-1098 (2013); Daniel J. Manier et al., Conservation Buffer Distance Estimates for Greater Sage-Grouse—A Review, USGS Open File Report 2014-1239 (2014). The EA fails completely to consider this, or for that matter, any other, science. Instead, its consideration of impacts is limited to three brief assertions, none of which come close to meeting its obligation to take a "hard look" at the consequences of leasing. First, the EA acknowledges that "Current science indicates the restrictions within existing RMPs in the Bighorn Basin planning area under Alternative 2 do not provide the level of protection desired for Greater Sage-Grouse habitat within Greater Sage-Grouse Core Habitat Areas (also known as BLM's Key Habitat Areas)." EA at 4-5. Despite this acknowledgment, the EA provides no explanation or disclosure of what the effects of leasing 32 Lander area core parcels, EA 4-5, would be. Second, the EA asserts, without any analysis or explanation, that "With application of standard operating procedures (SOPs), applied mitigation, required design features, and conditions of approval identified for Greater Sage-Grouse under the proposed action, impacts caused by surface-disturbing and disruptive activities would be minimized." EA 4-10. This utterly conclusory assertion fails to provide any analysis whatsoever of what the effects of drilling with these	

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		stipulations would be, nor does it acknowledge the strong scientific consensus that 0.6-mile lek buffers (see, e.g., EA Appendix A at 16) are far below the minimum necessary to mitigate adverse effects from energy development, see Manier et al. 2014 at 7, 14. Finally, the EA, in its discussion of Alternative 3, notes that the area currently encompassed by Federal oil and gas leases within greater sage-grouse core areas has declined since 2008. EA 4-44 to 4-45. BLM states that this decline is a "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 on-going plan revisions are completed." EA 4-45. The EA does not disclose to what extent this acreage reduction stems from lease expirations, and to what extent from Wyoming reducing the scope of core areas in 2010 order to accommodate oil and gas development. The fact that the acreage of grouse habitat under federal lease in Wyoming has declined since 2008 does not excuse BLM of the obligation to evaluate what the effects of the particular proposed leases under consideration in this EA would be. Similarly, the fact that the pace of leasing has declined under BLM's interim deferral policy should not excuse BLM from taking a hard look at the consequences of ending that deferral policy for new leases in the Lander FO. As will be explained in detail below, renewed leasing under the Lander RMP is inconsistent with the state of scientific knowledge regarding grouse conservation, and would have significant adverse consequences for the species.	
8	CBD/FoE	b. The Proposed Leases Would Allow Excessive Surface Disturbance in Core Sage-Grouse Habitat Land surface disturbance in sage-grouse habitat is well known to affect the	Reference EA Section 1.6, for a discussion of development in relation to leasing. Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically

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		species. Disturbance thresholds are commonly applied in areas of energy development, even though there has been limited science to date establishing the disturbance threshold by percentage of land area at which significant impacts to sage grouse begin to occur. The proposed Lander leases address this threat to sage-grouse viability only through a stipulation imposing a 5% surface disturbance threshold, under a metric known as the DDCT. The proposed leases provide that "[s]urface occupancy or use will be restricted to no more than an average of one disturbance location per 640 acres using the DDCT, and the cumulative value of all applicable surface disturbances, existing or future, must not exceed 5 percent of the DDCT area." Under the Lander RMP, Wyoming Core Area strategies and Wyoming BLM Instruction Memoranda, the amount of cumulative disturbance allowed in sage-grouse core habitat is five percent per square mile, as calculated by an algorithm known as the Density Disturbance Calculation Tool (DDCT). The DDCT is used to establish an area for measuring the maximum amount of disturbance that may be allowed under a project proposal. The DDCT essentially buffers a proposed project area by 4 miles, identifies all occupied leks within this area and buffers them by 4 miles, and uses the combined area as the denominator to calculate the total land area from which to derive the total percentage of land that could be disturbed by the project. This results in well densities and percentage of surface disturbance that exceed the threshold of significant impact to sage grouse populations within individual project areas. The five percent disturbance threshold is not known to conserve sage-grouse long-term and is only a guess by agencies and others seeking to accommodate development in sage-grouse habitat. Past projects approved prior to implementation of the Wyoming Core Area strategies indicate that sage-grouse are adversely affected at lower levels of disturbance. For example, for	be analyzed in more detail at this time. At the time of APD development a site-specific analysis of these resources will be completed. Land Use Plans or Resource Management Plans (RMP) consider the availability of public lands for oil and gas leasing. This leasing EA addresses how those nominated parcels will be stipulated in conformance with the RMPs. If an Application for Permit to Drill is received proposing to develop a lease parcel, site specific analysis of the impacts is conducted and impacts will be mitigated as determined necessary. Lander parcels are offered with lease stipulations in conformance with the approved RMP. The Sage-Grouse leasing screen was followed from IM 2012-019, and the Bighorn Basin parcels were properly screened following policy criteria and therefore were appropriately deferred, partially deferred, or recommended for sale.

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		the Continental Divide/Wamsutter II Natural Gas Project approved in 2000, 3,000 wells were proposed with 22,400 acres of new surface disturbance, representing 2.1 percent of the planning area (with an average well density of 4 wellsites per square mile) (BLM 2000); today, sage-grouse are functionally extirpated in this area. In the Atlantic Rim coalbed methane field, 2,000 wells were permitted at a density of eight wells per square mile, far above the threshold known to cause sage grouse declines. Today, sage grouse are essentially extirpated in developed portions of this field. Recent science in the western portion of the sage grouse range found that some 99 percent of active leks were located in areas surrounded by lands with 3 percent or less surface disturbance from roads, power lines, pipelines, and other features. Furthermore, once the three percent limit is reached, additional surface-disturbing projects are precluded (with no exceptions in cases where off-site mitigation projects are undertaken), and in cases where the three percent limit is already exceeded, restoration must occur to meet this threshold under the NTT recommendations. BLM should cap disturbance at 3 percent on a per-squaremile basis at most in both Priority Habitats and Connectivity Areas.	
9	CBD/FoE	c. The Proposed Leases Would Allow Excessive Well Density in Core Sage-Grouse Habitat. The proposed leases would allow for a density of one energy development site per 640 acres. Scientific research has determined that one energy site per square mile is the density threshold at which significant impacts to sage-grouse populations begin to be measured (Copeland et al. 2013). The analysis of Copeland et al. found that a statewide analysis of well densities revealed population decline curves very close to the earlier studies by Holloran (2005), but also noted that a 1 wellpad per square mile density of development	Reference EA Section 1.6, for a discussion of development in relation to leasing. Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed in more detail at this time. At the time of APD development a site-specific analysis of these resources will be completed. Land Use Plans or Resource Management Plans (RMP) consider the availability of public lands for

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		correlated to approximately 18% decline in sage grouse lek population. One wellpad per square mile is not a zero-impact threshold. In accordance with these findings, the Wyoming Core Area strategies purport set a limit of one energy development site per square mile in core habitat, but use a Density/Disturbance Calculation Tool ("DDCT") to generate the well density figure. This methodology calculates site density per square mile, rather than capping density at one site per square mile of land – a very significant difference. In cases where the DDCT area is greater than 640 acres, the stipulation may allow more than one well or mine site to be developed in a given square mile as long as the overall density of sites in the area is below one per mile. This can readily result in a density of well sites that exceeds science-based thresholds at which significant impacts to sage grouse inhabiting the habitat in question begin to occur. By contrast, all available science that has evaluated impacts of well density on sage grouse has done so on a per-square-mile basis, and not one has ever evaluated the impact when calculating disturbance using the DDCT or any method similar to it. The lease sale EA contains no independent analysis, merely tiering to the Lander RMP. Moreover, even well densities less than one per square mile can have a negative effect on sage grouse. According to Taylor et al. (2012: 28, emphasis added): Two scenarios include decisions on whether to develop a landscape from 0 to 4 wells per section (0 to 1.5 wells/km2), and then from 4 to 8 wells per section (1.5 wells/km 2 to 3.1 wells/km2). In both cases, the total northeast Wyoming lek count decreased by ~ 37% (1- 2,876/4,537 and 1-1,768/2,876, Table 3), leaving only 39% of the original number of males on leks (1,768/4,537, Table 3) when development reached 8 wells per section (80 ac spacing).	oil and gas leasing. This leasing EA addresses how those nominated parcels will be stipulated in conformance with the RMPs. If an Application for Permit to Drill is received proposing to develop a lease parcel, site specific analysis of the impacts is conducted and impacts will be mitigated as determined necessary. Lander parcels are offered with lease stipulations in conformance with the approved RMP. The Sage-Grouse leasing screen was followed from IM 2012-019, and the Bighorn Basin parcels were properly screened following policy criteria and therefore were appropriately deferred, partially deferred, or recommended for sale.

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		Large leks are an important index of population trends, and Taylor et al. (2012: 28) found a particular reduction in large leks with increasing well densities, even below one well per square mile: A warning signal of declining populations is given by the accompanying decline in large leks, which showed a 70% decrease from no development to 160 ac spacing (1.5 wells/km2, 1- 18/60, Table 3). By 80 ac spacing (3.1 wells/km2), only 2 large leks remained on the landscape (Table 3). d. Sage-Grouse Lek Buffers in the Proposed Leases are Insufficient Protecting sage-grouse leks and associated nesting and brood-rearing habitat are key to individual producing (post-drilling) oil and gas wells drilled within 1.9 miles from active leks (Holloran 2005), measureable impacts from coalbed methane fields extend out to 4 miles (Walker 2008), and new research has recorded effects as far away as 12.4 miles from leks (Taylor et al. 2012). WGFD, using lek buffers of 0.25 mile, 0.5 mile, 0.6 mile, 1.0 mile, and 2.0 mile, estimated lek persistence of 4, 5, 6, 10, and 28 percent, respectively (Christiansen and Bohne 2008, memorandum, Attachment 12). Standard energy development within 2 miles of a lek is projected to reduce the probability of lek persistence from 87% to 5% (Walker et al. 2007). Taylor et al. (2012: 27) examined sage grouse dynamics in the Powder River Basin and found, "For oil and gas development, the signal is strongest within a 12.4-mi (20-km) radius of a lek, and it is much stronger at this radius than at any smaller radii." Furthermore, in northeast Wyoming females may nest further from leks than elsewhere, placing a premium of extending protections for sage grouse inside and outside Priority Habitats. According to Taylor et al (2012: 27),"Second, female sage- grouse that visit a lek use an approximately 9-mi (15-km) radius surrounding the lek for nesting; a 2-mi (3.2-km) radius encompasses only 35-	

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		50% of nests associated with the lek (Holloran and Anderson 2005, Tack 2009). While a lek provides an important center of breeding activity, and a conspicuous location at which to count birds, its size is merely an index to the population dynamics in the surrounding habitat. Thus attempting to protect a lek, without protecting the surrounding habitat, provides little protection at all." Unfortunately, the proposed leases in the Lander FO, only require protective buffers of 0.6 miles around leks in designated core habitat(see, e.g., EA Appendix A at 15); this corresponds to a 6% probability of lek persistence (Christiansen and Bohne 2008). Indeed, BLM itself points to the inadequacy of this regulatory mechanism: "Studies have shown that greater distances, anywhere from two to four miles, are required for viable Greater Sage-Grouse populations to persist." BLM, Draft Wyoming Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement 4-335 (2014). USGS's review of sage-grouse buffer science reaches similar conclusions: Direct impacts of energy development on sage-grouse habitats and populations, such as loss of sagebrush canopy or nest failure, have been estimated to occur within a 1.2- ha (3-acre) area of leks (radius: 62 m [68 yards]); indirect influences, such as habitat degradation or utilization displacement, have been estimated to extend out to 19 km (11.8 mi) from leks (Naugle and others, 2011). Regional analyses of well-density and distance effects (Johnson and others, 2011) suggested negative trends in populations (lek counts) when distance was less than 4 km (2.5 mi) to the nearest producing well; whereas density effects were evident rangewide based on decreasing population trends when greater than eight active wells occurred within 5 km (3.1 mi) of leks, or when more than 200 active wells occurred within 18 km (11 mi)of leks. In Wyoming, significant negative relations between use of seasonal habitats and well densities have been demonstrated. Fedy and others (2014) found asignificant	

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		negative relation between well density and probability of sage-grouse habitat selection during nesting (3.2-km [2-mi] radius) and winter (6.44-km [4-mi] radius) seasons. In the Powder River Basin, wintering sage-grouse were negatively associated with increasing coalbed natural gas well densities within a 2-km × 2-km (1.24-mi × 1.24-mi) window (Doherty and others 2008). Also, Gregory and Beck (2014) documented lek attendance decline when energy development averaged 0.7 well pads/km2 (1.81 well pads/mi2; using a 10-km × 10-km [6.2-mi × 6.2-mi] assessment window) across multiple populations and different development patterns. Manier et al. 2014 at 7. By comparison, the NTT report recommends a 4-mile lek buffer for siting industrial development in sage-grouse habitat (NTT 2011), a prescription in greater accord with the science, although the study notes that this 4-mile buffer captures only approximately 80 percent of nesting females. Aldridge and Boyce (2007) suggested that even larger buffers (10 km) are warranted. Males use shrubs <1 km (0.6 mi) from a lek for foraging, loafing, and shelter; this does not make 0.6 mile the appropriate buffer for preventing impacts even to breeding bird, much less nesting birds. In Wyoming, State and BLM policies have in the past erroneously used male sagebrush use this as a basis for relying a 0.6-mile No Surface Occupancy buffer around leks. However, the latest review of science clearly indicates that substantially larger buffers are required to mitigate negative effects from energy development and other disturbance. See Manier et al. 2014 at 7, 14. Comparison of the proposed action with WGFD data shows that 42 proposed Lander leases contain sage- grouse habitat within four miles of an occupied lek: parcels WY-1602-060 through -082, -085 through -093, -104 through -111, -115, and -116. These proposed leases, however, adopt only a scientifically-unsound 0.6 mile no surface occupancy standard for protection of that habitat,	

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		EA Appendix A.	
10	CBD/FoE	e. The Proposed Leases Fail to Protect Sage-Grouse Winter Habitat Although leks are important focal points for breeding and subsequent nesting in the surrounding region, other seasonal use areas and habitat requirements may be equally limiting to sage-grouse populations. Suitable and diverse winter habitats are critical to the long-term persistence of grouse populations. The Lander RMP, however, relied upon by the EA as justification for leasing of grouse habitat, offers only inadequate protection (limits on surface disturbance from December 1-March 14) to winter habitats. As summer ends, the diet of sage-grouse shifts from a diet of insects, forbs and sagebrush to one comprised almost entirely of sagebrush. In winter, the grouse depends heavily on sagebrush for cover, habitat selection being driven by snow depth, the availability of sagebrush above the snow, and topographic patterns that favorable mitigate the weather. Abundance of sagebrush at the landscape scale greatly influences the choice of wintering habitat. One study found that the grouse selected for landscapes where sagebrush dominate over 75% of the landscape with little tolerance for other cover types. Because appropriate wintering habitat occurs on a limited basis and because yearly weather conditions influence its availability, impacts to wintering habitat can have large disproportional effects on regional populations. One study in Colorado found that 80% of the wintering use occurred on only 7% of the area of sagebrush available. Additionally, some degree of site fidelity to winter areas is suspected to exist, and wintering areas not utilized in typical years may become critical in severe winters.	Reference EA page 1-5, Section 1.6, for a discussion of development in relation to leasing. Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed in more detail at this time. At the time of APD development a site-specific analysis of these resources will be completed. Land Use Plans or Resource Management Plans (RMP) consider the availability of public lands for oil and gas leasing. This leasing EA addresses how those nominated parcels will be stipulated in conformance with the RMPs. If an Application for Permit to Drill is received proposing to develop a lease parcel, site specific analysis of the impacts is conducted and impacts will be mitigated as determined necessary. Lander parcels are offered with lease stipulations in conformance with the approved RMP. The Sage-Grouse leasing screen was followed from IM 2012-019, and the Bighorn Basin parcels were properly screened following policy criteria and therefore were appropriately deferred, partially deferred, or recommended for sale.

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		Lower elevation sagebrush winter habitat used by sage-grouse may also constitute important winter areas for big game and early spring forage areas for domestic livestock. Due to differing vegetative condition requirements, land treatments on lower elevation sagebrush areas to increase big game or livestock forage at the expense of sagebrush cover and density could have long-term negative consequences for the grouse. Sage-grouse in the Powder River Basin were 1.3 times less likely to use otherwise suitable winter habitats that have been developed for energy (12 wells/4 km2), and avoidance was most pronounced in high-quality winter habitat with abundant sagebrush. The agency's examination of winter habitat impacts to sage grouse is entirely absent in the EA. See EA 4-4 to 4-6. BLM must take the legally required 'hard look' at direct or cumulative impacts to sage grouse wintering habitat under the various alternatives; since the impact of development approved under the Lander RMP on breeding and nesting sage grouse matters little if sage grouse populations do not survive the winter. Best available science indicates that grouse conservation warrants no surface disturbance in or adjacent to winter habitat any time of year. In addition, it is critically important for BLM to identify and protect winter concentration areas. Thus far, the location of these habitats remains largely undetermined. These lands, once identified, should be withdrawn from future mineral leasing and entry of all kinds, and, at a minimum, protective stipulations within 2 miles of these areas. Timing restrictions on road construction are wholly insufficient – with roads built in summer, 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.	
11	CBD/FoE	V. Conclusion	Thank you for your comments.

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		Due to the deficiencies documented in these comments, the Center requests: 1. That a Finding of No Significant Impact not be issued, and that the BLM initiate the process for preparing an environmental impact statement prior to authorizing any further leasing. 2. That the BLM defer all future sales within greater sage-grouse habitat until at least such time as (a) all BLM offices completed their grouse-related RMP revisions, and (b) the Fish and Wildlife Service completes its review of the status of the greater sage-grouse under the ESA. 3. That any further consideration of potential leasing within greater sage-grouse habitat consider not only leasing, but also deferral and or withdrawal, under FLPMA § 204, of said habitat from further leasing, consistent with the best available science regarding greater sage-grouse conservation. Thank you for consideration of these comments. The Center looks forward to reviewing a legally adequate EIS for this proposed oil and gas leasing action. Sincerely, Michael A. Saul, Senior Attorney, Center for Biological Diversity, 1536 Wynkoop Street, Suite 421 Denver CO 80202, Tel. (303) 915-8308, email msaul@biologicaldiversity.org Marissa Knodel, Climate Campaigner, Friends of the Earth, 1100 15th Street NW, 11th Floor, Washington, DC 20005, 202-222-0729 (direct), mknodel@foe.org	
12	Wild	The following are the lands and wildlife comments of WildEarth Guardians and	Comments from WildEarth Guardians and Rocky

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	Earth Guardians (WEG) Rocky Mtn. Wild (RMW)	Rocky Mountain Wild on the Wyoming BLM's February 2016 Lease Sale EAs for the Wind River/Bighorn Basin and High Plains Districts. Guardians will be submitting separate comments on these EAs on the subjects of climate change, the social costs of carbon, and air quality. For many years, the BLM has prioritized oil and gas leasing and development over other multiple uses such as wildlife, watersheds, and public recreation. It is time for the BLM to restore some balance among resource uses in Wyoming, and render extractive industries more compatible with maintaining healthy ecosystems and public enjoyment of the land. Generally speaking, we would support a modified version of the BLM Preferred Alternative adjusted to address our concerns, but in this case the problems with this proposed lease sale and its NEPA analysis are so pervasive that we recommend scrapping the entire effort and adopting Alternative A, the No Action alternative. At minimum, BLM should adopt an alternative deferring all sage grouse parcels from the sale, to implement Lander RMP direction to prioritize fluid mineral leasing outside Core Areas and to prevent an irretrievable commitment of resources in the other Field Offices, where sage grouse plan amendments or revisions are underway to strengthen grouse protections and provide adequate regulatory mechanisms to prevent further population declines. BLM has declined to consider such an alternative in detail (see, e.g, WRBB EA at 2-15); given the significant impacts that are likely to result to sage grouse habitats and populations as a result of leasing these parcels, this failure to analyze an otherwise reasonable alternative violates NEPA's range of alternatives requirement. BLM attaches a number of stipulations, most notably timing stipulations, and relies upon them to reduce impacts to sensitive wildlife resources without ever	Mountain Wild (WEG/ RMW) regarding the February 2016 Lease Parcels EA were submitted as a combined document for both the Wind River/Bighorn Basin District (WRBBD) February 2016 Lease Sale and the High Plains District (HPD) February 2016 Lease Sale. *As these are two distinct sales, in two distinct districts, with two distinct EA's, responses in this section apply only for the Wind River/Bighorn Basin District February 2016 Lease Sale EA.*

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		analyzing the effectiveness of these stipulations. Many of these stipulations are known to be ineffective as outlined below.	
13	WEG/ RMW	We concur with the intention to defer parcels entirely or in part based on the sage grouse Priority Habitat screen and, at the discretion of the State Director, to defer in whole or in part parcels within core areas totaling 2,905 acres in the WRBB District WRBB EA at Appendix C, and see HP EA at 4. **Sage Grouse** We agree with BLM's recommendations to defer in whole or in part the offering of Parcels 035, 127, 128, 138, 139, 140, 142, and 144, which fall entirely or partially within Core Areas. It is a wise decision to defer the long-term commitment of mineral leases at least until the sage grouse RMP amendment process is completed, in order to avoid foreclosing conservation options that may be selected for implementation under the RMP amendments. We also agree with BLM's decision to delete all or parts of parcels 118, 119, 120, 121, 122, 123, 124, 125, 141, and 146, which involve lands closed to fluid mineral leasing in the Lander RMP to satisfy FLPMA conformity requirements.	Thank you for your comments.
14	WEG/ RMW	BLM chose not to consider deferring all parcels that fall within sage grouse Core Areas, with a great many parcels offered in the Lander Field Office. This alternative is a fully reasonable and well-reasoned option, and BLM's explanation for why it was not considered in detail is inconsistent with the precepts of NEPA. The adoption of the 2014 Lander RMP does not preclude BLM from adopting stronger protection measures for sage grouse than are explicitly prescribed under the guidance it contains. Under NEPA, BLM must consider a range of reasonable alternatives, including those that are outside the	A request to defer all parcels is already included in Alternative A. Pursuant to 40 CFR 1508.28 and 1502.21, the EA tiers to and incorporates by reference the information and analysis contained in the Grass Creek Resource Management Plan (RMP) 1998 (BLM 1998a); Washakie RMP 1988 (BLM

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		agency's authority to implement. In this case, such an alternative would be fully within BLM's authority to implement. We request that all parcels listed herein be deferred from the lease sale. BLM should do its best to keep largely unleased areas of public land in Core Areas unleased, regardless of mineral ownership patterns. Wyoming sage grouse populations are some of the largest left in the nation and were relatively stable until the last decade, when sage grouse populations experienced major declines range-wide. The Wyoming Game and Fish Department reported that since 1952, there has been a 20% decline in the overall Wyoming sage grouse population, with some fragmented populations declining more than 80%; one of WGFD's biologists reported a 40% statewide decline over the last 20 years. As of 2014, WGFD data reports a 60% population decline statewide since 2007. *See also* Attachment 1. Since these figures were published, grouse populations have continued to decline over the long term. 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 2 to 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, sage grouse from disturbed leks where gas development occurred within 3 km of the lek site showed lower nesting rates (and hence lower reproduction), traveled farther to nest, and selected greater shrub cover than grouse from undisturbed leks. 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	1988b); Cody RMP 1990 (BLM 1990); and the Final Environmental Impact Statement for each RMP; and the Lander Record of Decision and Approved Resource Management Plan (2014) (RMP). As used in the EA, the term "Bighorn Basin" refers to the ongoing consolidated planning effort to revise the Land Use Plans for the Cody and Worland Field Offices. Since this process is underway, the BLM may defer certain parcels within the Worland or Cody Field Offices for reasons associated with the planning effort. The parcels nominated for the lease sale have been identified as available for leasing in each RMP, or, are not precluded by the Bighorn Basin planning effort. Application of stipulations to nominated parcels is directed by the approved RMPs.

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		thoroughly evaluated with full NEPA analysis.	
15	WEG/ RMW	Lease parcels should also be screened against Sage Grouse ACECs proposed in the context of the statewide Sage Grouse Plan Amendments EIS process. Many of the proposed ACECs have for proposed management withdrawal from future oil and gas leasing. Parcels in each of these areas should be deferred pending the outcome of the Sage Grouse Plan Amendments process, so that a proper decision can be made regarding whether or not to lease them and/or appropriate stipulations can be attached, per IM 2004-110 Change 1. BLM should also consider whether any parcels fall within proposed Sage Grouse ACECs. In the forthcoming RMP revisions, it is our expectation that the BLM will be considering the designation of several Core Areas as Sage Grouse ACECs, to be managed for no future leasing for oil and gas development.	The BLM follows the Council on Environmental Quality Regulations, 40 CFR 1506, that state until an agency issues a record of decision as provided in Section 1505.2, no action concerning the proposal shall be taken which would (1) have an adverse environmental impact; or (2) limit the choice of reasonable alternatives. Therefore, parcels were reviewed utilizing existing RMP resource allocations and then reviewed in accordance with ongoing RMP alternatives to ensure BLM is in compliance with the above stated CEQ regulations.
16	WEG/ RMW	In addition, many parcels are at least partially within designated Preliminary General Habitat (PGH) under the Wyoming Sage-grouse RMP Amendment DEIS, Bighorn Basin RMP DEIS, or Buffalo RMP DEIS preferred alternatives including Parcels 002, 003, 005, 006, 007, 008, 009, 010, 012, 013, 015, 016, 017, 018, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 030, 031, 032, 033, 034, 036, 037, 038, 039, 040, 041, 042, 043, 044, 045, 046, 047, 048, 049, 050, 051, 052, 053, 054, 055, 056, 057, 058, 059, 076, 126, 127, 128, 136, 137, 138, 139, 140, 141, 143, 145, and 146 according to our lease screens. All portions of these parcels falling within PGH should be deferred as well, in order to retain the decision space for “no leasing” or No Surface Occupancy for Preliminary General Habitats under the sage grouse-related RMP revisions and amendments currently underway, which provide the only legally sufficient EIS underpinning to allow leasing in the habitat of a Candidate Species. It is important to note that the significant new information that has arisen regarding greater sage grouse	The WRBBD is not part of the "9-Plan". The Sage-Grouse leasing screen was followed from IM 2012-019. The parcels in the WRBBD listed in the comment were properly screened following policy criteria and therefore were appropriately deferred, partially deferred, or recommended for sale. No new substantive information was provided for further analysis. Lander lease parcels WY-1602-141 and -146 *were removed from the lease sale as those areas are closed to leasing*. Reference EA 1.7 Issues Considered and Eliminated From Further Analysis.

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		(Candidate Species designation, National Technical Team report, and numerous scientific and technical reports) apply also to Preliminary General Habitats. Current BLM sage grouse protections (quarter-mile NSO and 2- mile TLS stipulations) have been shown by this new information to be inadequate to maintain this BLM Sensitive Species. In addition, Garton et al. (2015) performed a population persistence analysis that indicates a 65.3% chance that the sage grouse population will drop below 50 in the Wyoming Basin Management Zone (encompassing Lander and Bighorn Basin parcels) in 100 years. See Attachment 1. This population level equates to functional extinction for the largest remaining sage grouse population in the world, and BLM is required by its Sensitive Species policy to take all measures necessary to avoid this outcome, including withdrawing the sage grouse parcels in this sale.	As identified in WRBBD Appendix C, Greater Sage-Grouse Screen results identify Cody parcels WY-1602-136 and -137 as *not* being within core area; -138 and -139 as being partially within sage grouse core, and -140 was recommended for a full sage-grouse deferral. Worland's parcels WY-1602-076,and -126 were *not* identified as being within core area. Worland -127 and -128 were identified for a partial sage grouse core deferral. Under Alternative 3 in the WRBBD EA, due to potential conflicts with Alternative D of the Bighorn Basin RMP revision and the anticipated timing of the RMP revision ROD prior to the date the sale will be held, all of the parcels located in the Bighorn Basin planning area will be deferred under Alternative 3. Rationale for deferral includes management actions being considered within the Bighorn Basin Resource Management Plan (BB RMP) Proposed RMP Final Environmental Impact Statement (FEIS) (BLM 2015).
17	WEG/ RMW	A large number of these PGH parcels are within the Casper and Newcastle Field Offices, which are part of the Powder River sage grouse population of northeast Wyoming. Due to the compounded effects of energy development and	Comment is directed to HPD. WRBBD has no response for this comment.

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		West Nile virus in the Buffalo Field Office, this population is considered to be one West Nile virus outbreak away from functional extinction, with the inadequacy of Core Area designations being a significant contributing factor according to BLM's own population viability analysis (Taylor et al. 2012). Garton et al. (2015) found that there is a 98% chance that this sage grouse population will drop below an effective size of 50 breeding birds – deep in the extinction vortex – within 30 years.5 The inadequacy of proposed quarter-mile NSO buffers paired with 2-mile timing limitation stipulations, in place in current plans and proposed for the new RMPs in General Habitats, is well-known and well-established, and leads to extirpation of sage grouse populations when full-field oil and gas development occurs under these conditions (see, e.g., Holloran 2005, projecting extirpation of sage grouse in the Pinedale Anticline and Jonah Field). Given the inadequate spatial extent of Core Area designations for this population, scientifically valid and adequate sage grouse protections must be imposed in General Habitats as well in order to maintain the viability of this population and thus avoid violation of FLPMA undue degradation and nonimpairment standards as well as BLM's Sensitive Species policy.	
18	WEG/ RMW	Parcels 21, 23, 24, 25, 26, 27, 28, 29, 30, 32, 35, 36, 37, 38, 39, 41, 43, 45, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 85, 86, 91, 92, 93, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 115, 116, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 137, 138, 139, 140, 142, 143, 144, and 145 are located within 4 miles of one or more active sage grouse leks based on our analysis. The lands within 4 miles of activeleks are typically used for nesting, 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 Core Areas are biologically inadequate, and their effectiveness has not been	Beyond the scope of this document. Oil and gas stipulations have been developed for the approved RMPs, and their applicability is being evaluated in the leasing EA. The BLM is not considering development of new lease stipulations for the parcels not anticipated for deferral. As identified in the WRBBD EA and in Appendix A Parcels with Stipulations, timing limitations and surface use restriction stipulations, as or if

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		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 declines have been documented. 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 4-mile No Surface Occupancy stipulations around active leks. If these stipulations are implemented together with even stronger measures for Core and Connectivity Areas, the BLM could make a credible case that impacts from leasing would not result in significant impacts. Outside Core Areas, current sage grouse lease stipulations provide an NSO stipulation of ¼ mile around active sage grouse leks. This is a ridiculously 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 Core Areas, the most scientifically supportable metric for NSO buffers would be 2 miles from the lek to protect breeding birds (after Holloran 2005, finding impacts from post-drilling production extend 1.9 miles from the wellsite) 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 University of Wyoming dissertation on the impacts of oil and gas development on sage grouse, Matthew	appropriate, have been applied to Lander lease parcels WY-1602-060, -061, -062, -063, -064, -065, -066, -067, -068, -069, -070, -071, -072, -073, -074, -075, -077, -078, -079, -080, -081, -082, -085, -086, -091, -092, -093, -096, -097, -098, -099, -100, -101, -102, -103, -104, -105, -106, -107, -108, -109, -110, -111, -115, -116, -129, -130, -131, -132, -133, -134, -and 135. Worland lease parcels WY-1602-076, -126, -127, and -128, and Cody lease parcels -137, -138, -139, and -140, due to the anticipated timing of the RMP revision ROD prior to the date the sale will be held, all of the parcels located in the Bighorn Basin planning area will be deferred under Alternative 3 in the WRBBD EA. Rationale for deferral includes management actions being considered within the Bighorn Basin Resource Management Plan (BB RMP) Proposed RMP Final Environmental Impact Statement (FEIS) (BLM 2015).

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		Holloran stated, "current development stipulations are inadequate to maintain greater sage grouse breeding populations in natural gas fields." (Notably, these exact stipulations are being applied by BLM in this lease sale for non-Core Area sage grouse habitat parcels). The area within 2 or 3 miles of a sage grouse lek is crucial to both the breeding activities and nesting success of local sage grouse populations. Dr. Clait Braun, the world's most eminent expert on sage grouse, has recommended NSO buffers of 3 miles from lek sites, based on the uncertainty of protecting sage grouse nesting habitat with smaller buffers. Thus, the prohibition of surface disturbance within 3 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 publication. 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 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 new information in recent studies to warrant supplemental NEPA analysis of 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	

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		requires amendment of the Resource Management Plans before additional oil and gas leasing can move forward. Wyoming Game and Fish Department 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. 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." 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 IM No. WY-2012-019 come nowhere close to offering sufficient on-the-ground protection to sage grouse leks. Within Core Areas, the IM allows surface disturbing activity and surface occupancy just six tenths (0.6) of a mile from "the radius of the perimeter of occupied sage-grouse leks," a far cry from the science-based 4-mile buffer recommended by the BLM's own National Technical Team. 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 Core or Connectivity Areas allow surface disturbing activities and surface occupancy as close as one quarter (0.25) of a mile from leks. BLM has too	

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		great an abundance of data to the contrary to continue with scientifically unsound stipulations as used in IM WY-2012-019 and the current Notice of Competitive Oil and Gas Lease Sale. This is especially clear in light of the U.S. Fish and Wildlife Service's recent finding that listing the greater sage grouse as endangered or threatened under the Endangered Species Act is warranted, but precluded by other priorities. 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. If the BLM and other federal agencies intend to keep the sage grouse from accelerating beyond other listing priorities, more protective measures, in adherence with the scientific recommendations of Holloran, Braun, and others, must be undertaken now.	
19	WEG/ RMW	The vague stipulations included in BLM's Notice of Competitive Oil and Gas Lease Sale 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.	Land Use Plans or Resource Management Plans (RMP) consider the availability of public lands for oil and gas leasing. This leasing EA addresses how those nominated parcels will be stipulated in conformance with the RMPs. If an Application for Permit to Drill is received proposing to develop a lease parcel, site specific analysis of the impacts is conducted and impacts will be mitigated as determined necessary.

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20	WEG/ RMW	BLM has the scientific information needed to recognize that any use of these parcels will result in further population declines, propelling the sage grouse ahead of other "priorities" on the ESA "candidate list." 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 violate the "jeopardy" prohibition in the Endangered Species Act and will not adhere to the directive of Secretary Salazar and the Department of Interior's announced leasing reforms.	Beyond the scope of this document. Development cannot be reasonably determined at the leasing stage, nor can impacts realistically be analyzed in more detail at this time. If development should occur, proposals shall be analyzed in a site specific NEPA document, which shall addresses resource concerns.
21	WEG/ RMW	We recommend against the sale of any lease parcels which contain sage grouse leks, nesting habitat, breeding habitat, wintering habitat and brood-rearing habitat. 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 November 2015 Leasing EA), and NSO stipulations must be placed on all lease parcels with sage grouse leks. In addition, three-mile buffers must be placed around all 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 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.	Beyond the scope of this document. Oil and gas stipulations have been developed for the approved RMPs, and their applicability is being evaluated in the leasing EA. The BLM is not considering development of new lease stipulations for the parcels not anticipated for deferral. Furthermore, development cannot be reasonably determined at the leasing stage, nor can impacts realistically be analyzed in more detail at this time. If development should be proposed, a site-specific analysis of these resources will be completed at that time.
22	WEG/ RMW	In 2010, the greater sage grouse became a Candidate Species under the Endangered Species Act, and a final listing determination is due by court order in September of 2016. These facts constitute significant new information that	Thank you for your comments. Beyond the scope of this document. Pursuant to 40

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		has not been addressed in programmatic NEPA analysis for any of the Resource Management Plans that support the Wyoming November 2015 oil and gas lease sale. In addition, numerous scientific studies have been published indicating that BLM mitigation measures in these plans are insufficient and will not prevent significant impacts to sage grouse, and these studies also constitute significant new information not addressed in RMP decisionmaking. Finally, in 2013 the U.S. Fish and Wildlife Service identified Priority Areas for Conservation, and BLM subsequently identified Preliminary Priority Habitats and Preliminary General Habitats in its RMP Amendment Draft EIS, which also constitute significant new information, potentially significant impacts to which have yet to be addressed through an EIS. 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 in light of new information. Therefore, the requisite NEPA analysis to support the leasing of the sage grouse parcels listed above in the absence of an Environmental Impact Statement does not exist. Importantly, BLM makes no effort to analyze the environmental consequences of fluid mineral development on sage grouse on these parcels under the lease stipulations proposed for this sale. WRBB EA at 4-5. This is a NEPA 'hard look' violation. Likewise, there is no cumulative impacts analysis with regard to sage grouse. WRBB EA at 4-6. This also violates NEPA. Lander Sage Grouse Parcels It appears that almost 65,000 acres of oil and gas lease parcels are proposed for	Code of Federal Regulations (CFR) 1508.28 and 1502.21, the leasing EA tiers to and incorporates by reference the information and analysis contained in the Land Use Plans. (Reference EA 1.4 Conformance with BLM Land Use Plans). Beyond the scope of this document. Oil and gas stipulations have been developed for the approved RMPs, and their applicability is being evaluated in the leasing EA. The BLM is not considering development of new lease stipulations for the parcels not anticipated for deferral. Furthermore, development cannot be reasonably determined at the leasing stage, nor can impacts realistically be analyzed in more detail at this time. If development should be proposed, a site-specific analysis of these resources will be completed at that time. Beyond the scope of this document. The February 2016 Oil and Gas Lease Sale is an administrative action, as described in 43 CFR § 3100. The act of leasing oil and gas in itself does not directly result in physical alteration to the land. Development operations cannot be reasonably foreseen at the leasing stage, nor can impacts realistically be analyzed in more detail at this time. If development should occur, proposals shall be analyzed in a site specific NEPA document, which

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		lease within the Lander Field Office under the terms of the Lander RMP. These include Parcels WY-1602-060, 061, 062, 063, 064, 065, 066, 067, 068, 069, 070, 071, 072, 073, 074, 075, 077, 078, 079, 080, 081, 082, 083, 084, 085, 086, 087, 088, 089, 090, 091, 092, 094, 096, 097, 098, 099, 100, 101, 102, 103, 104, 105, 106, 107, 109, 110, 111, 129, 130, 131, 132, 133, 134, and 135. And see WRBB EA at 4-5. The sage grouse protections in the Lander RMP fail to provide adequate protection to sage grouse and their habitats based on the best available science, and thgus will result in violation of FLPMA's 'unnecessary or undue degradation' standard, FLPMA's 'nonimpairment' standards related to multiple use management, and the agency's Sensitive Species policy, which prevents the agency from permitting actions that would lead toward a listing of a Sensitive Species under the Endangered Species Act The BLM's own National Technical Team (2011) laid out recommendations for how fluid minerals should be managed in sage grouse Priority Habitats (which in Wyoming are known as "Core Areas'), but the Lander RMP provides a far lower standard of protection. Specifically, the Lander RMP provides for a 0.6-mile No Surface Occupancy buffer around leks, which is inadequate. Holloran (2005) found that even one producing well within 1.9 miles of a lek resulted in a significant decrease of the population of sage grouse at the lek; the National Technical Team (2011) recommended a minimum of a 4-mile No Surface Occupancy buffer around leks (which would protect most nesting habitat as well, but more importantly recommended no new oil and gas leasing at all in Priority Habitats. Manier et al. (2014) found that the range of appropriate lek buffers was 3.1 mile to 5 miles; the Lander BLM's 0.6-mile lek buffer lies outside this range. The Lander RMP allows up to 5% surface disturbance averaged over an area derived using a DDCT calculation tool; there is no scientific support for	shall addresses resource concerns.

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		allowing this much surface disturbance. Never once has a scientific study established the disturbance percentage threshold that prevents significant population impacts to sage grouse using the DDCT method, which inflates the acreage over which disturbance percentage is calculated and stands in direct contravention of the recommendations of BLM's own experts, who recommended both well density and surface disturbance be calculated per square mile section, not over a much larger area (NTT 2011). Scientific studies examining thresholds of well density and disturbance percentage suggest that a limit of 3% development and 1 site per square mile are the limit for development to maintain sage grouse populations, and calculate these percentages either per-square-mile-section or on a much smaller basis (3-mile radius around leks) than a typical DDCT Project Influence Analysis Area. In addition, for General Habitats, the Lander RMP applies biologically inadequate quarter-mile NSO buffer around active leks and a 2-mile timing limitation stipulation, protections that are well-known to be inadequate and have proven to lead to sage grouse extirpation in the face of full-field development (see, e.g., Holloran 2005). Parcels proposed for leasing under these inadequate General Habitat protections in the Lander Field Office include 062, 093, 094, 095, 096, 102, 103, 104, 105, 106, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120. 121, 122, 123, 124, 125, 126, 127, and 128. Development under the aforementioned General Habitat prescriptions hastens the extirpation of resident sage grouse populations and therefore violates FLMPA's undue degradation and nonimpairment standards as well as BLM Sensitive Species policy. These leases should be withheld from auction until such time that biologically adequate sage grouse stipulations can be applied to them.	

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		Garton et al. (2015) performed a population persistence analysis that indicates a 65.3% chance that the sage grouse population will drop below 50 in the Wyoming Basin Management Zone (encompassing Lander and Bighorn Basin parcels) in 100 years. *See* Attachment 1. This population level equates to functional extinction for the largest remaining sage grouse population in the world, and BLM is required by its Sensitive Species policy to take all measures necessary to avoid this outcome, including withdrawing the Lander sage grouse parcels in this sale.	
23	WEG/ RMW	Ungulate Crucial Habitats Parcels Parcels 75, 108, 109, 110, 111, 112, and 126 fall within mule deer crucial winter ranges and/or migration corridors. Parcels 74, 75, 78, 79, 81, 82, 83, 88, 89, 90, 98, 99, 100, 101, 105, 107, 108, 109, 110, 111, 112, 115, 116, 117, 118, 119, 120, 121, 122, 123, and 124 fall partially or entirely within antelope crucial winter ranges, migration corridors, and/or parturition areas. Parcels 95, 132, 140, and 141 fall within elk crucial winter ranges, migration corridors, and/or parturition areas. Parcel 141 falls within moose crucial ranges. All portions of these parcels falling within big game crucial ranges should be deferred or at least placed under No Surface Occupancy stipulations to protect these sensitive lands and prevent impacts to these species. BLM has authority to apply a greater level of protection than is called for under the RMP to subsequent oil and gas development decisions, and we call upon the agency to employ this authority to protect these sensitive wildlife habitats. The crucial big game range portions of these parcels falling within the Cody, Worland and Buffalo Field Offices need to be deferred due to pending completion of the pending RMP revisions to avoid foreclosing on reasonable	No comment on the parcels outside of the Wind River Bighorn Basin District. Lander parcels WY-1602-075, -108, -109, -110, -111, -112, -74, -75, -78, -79, -81, -82, -83, -88, -89, -90, -95,98, -99, -100, -101, -105, -107,108, -109, -110, -111, -112, -115, -116, -117, -118, -119, -120, -121, -122, -123, -124, - 132, - and 141 are all offered with appropriate leasing stipulations as per the Lander RMP. Worland parcel 126 and Cody parcel 140 have been recommended for deferral for this lease sale. Under Alternative 3 in the WRBBD EA, due to the anticipated timing of the RMP revision ROD prior to the date the sale will be held, all of the parcels located in the Bighorn Basin planning area will be deferred under Alternative 3. Rationale for deferral includes management actions being

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		alternatives including no leasing and NSO-only leasing on big game winter ranges, which need to be considered by BLM. It would be prudent for BLM not to commit these lands for a 10-year period during which the leaseholders would possess some right to explore and produce oil and gas on their leaseholds. A comprehensive analysis of the level of crucial winter range conservation necessary to maintain herd populations at or above targets needs to be undertaken; we urge BLM to defer such parcels until this analysis is complete, in order to avoid foreclosing on options for conservation.	considered within the Bighorn Basin Resource Management Plan (BB RMP) Proposed RMP Final Environmental Impact Statement (FEIS) (BLM 2015). The BLM follows the Council on Environmental Quality Regulations, 40 CFR 1506, that state until an agency issues a record of decision as provided in Section 1505.2, no action concerning the proposal shall be taken which would (1) have an adverse environmental impact; or (2) limit the choice of reasonable alternatives. Therefore, parcels were reviewed utilizing existing RMP resource allocations and then reviewed in accordance with ongoing RMP alternatives to ensure BLM is in compliance with the above stated CEQ regulations.
24	WEG/ RMW	In its April 2008 Decision on a challenge of the June 6, 2006 lease sale, the Interior Board of Land Appeals inquired into whether BLM had complied with the Memorandum of Understanding between BLM and the Wyoming Game and Fish Department in regarding lease parcels in big game crucial winter range and parturition areas. The BLM is required to have a rational basis for its decision to issue leases in crucial wildlife habitat, and that basis must be supported by the agency's compliance with applicable laws. While the Board held that failure of BLM to follow the directives contained in Instruction Memorandum No 2004-110 Change 1 was not, standing alone, proof of the violation of law or discretionary policy, it was probative of whether BLM had a rational basis for its decision. The Board found that the appeal record presented no evidence of	The Wyoming Game and Fish Department (WGFD) as part of the State of Wyoming is a cooperator in all planning processes and decisions. They continue to be involved in these leasing processes as well. WGFD biologists participate in review of the lease parcels. The WGFD Headquarters Office in Cheyenne also has the opportunity to comment on the analysis.

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		compliance with the Memorandum of Understanding. We recommend against selling the lease parcels listed above because BLM has in cases where parcels are not deferred again failed to comply with the Memorandum of Understanding and therefore has not provided a rational basis for its decision to offer lease parcels in areas with big game crucial winter range and parturition areas. Until such time as BLM complies with the Memorandum of Understanding it has no rational basis for its decision and the decision is arbitrary and capricious. We request that the parcels be withdrawn from the upcoming lease sale.	
25	WEG/ RMW	While WildEarth Guardians strongly recommends against the offering of any of these lease parcels for sale, at the minimum, all such parcels in big game crucial winter range and parturition areas should have No Surface Occupancy (NSO) stipulations applied to them. NSOs provide the only real protection for big game. Recent studies on the impacts of oil and gas development and production on big game in Wyoming show that the impacts have been huge. Not only have impacts to big game been significant, but they have occurred in spite of the application of winter timing limitations, demonstrating that these stipulations alone do not provide adequate protections for big game. The effectiveness of Timing Limitation Stipulations has been neither tested nor established by any other method by BLM, and the overall 30% decline of the Pinedale Mesa mule deer population while TLS stipulations were applied demonstrates their ineffectiveness. A further noteworthy factor is that timing limitations apply only during oil and gas development, not during the production phase. Once production begins, there are no stipulations in place for the protection of big game. It is therefore imperative that stipulations adequate to protect big game be applied at the	Beyond the scope of this document. Oil and gas stipulations have been developed for the approved RMPs, and their applicability is being evaluated in the leasing EA. The BLM is not considering development of new lease stipulations for the parcels not anticipated for deferral. Development cannot be reasonably determined at the leasing stage, nor can impacts realistically be analyzed in more detail at this time. If development should occur, proposals shall be analyzed in a site specific NEPA document, which shall addresses resource concerns. Leasing stipulations have been applied to Lander parcels in conformance with the approved Land Use Plan. Reference the Lander RMP (2014), Appendix F: Wildlife timing limitation stipulation COAs/stipulations will not apply for long-term

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		leasing stage, not the APD stage. *See Center for Native Ecosystems,* IBLA 2003-352, November 22, 2006. Timing stipulations are not total prohibitions on drilling during the stressful winter period. Exceptions to the stipulations are regularly—almost automatically—granted anytime a lessee requests it. See, for example, http://www.wy.blm.gov/pfo/wildlife/exceptions.php (Pinedale Field Office winter range stipulation exceptions) which shows that ***123*** exceptions were granted for the winter of 2006-2007. Similar statistics are available for other Wyoming Field Offices. The enthusiasm with which the BLM has granted *winter-long* exceptions to the stipulation for drilling on crucial winter range further illustrates the totally discretionary nature and consequent ineffectiveness of this stipulation. Under the Lander RMP EIS, BLM proposes a Timing Limitation on surface disturbing and disruptive activities during the winter season of use in the agency's Preferred Alternative. Disruptive activities would include vehicle traffic and human presence at the wellpad, which disturb wintering big game. These are the type of TLS stipulations that need to be applied to winter range, parturition areas, and migration corridors for the upcoming lease sale. Just as important, traditional stipulations do not limit operational and production aspects of oil and gas development. *See*, for example, Jack Morrow Hills CAP EIS at A5-3. Obviously, if the stipulation does not reserve authority to BLM at the *leasing stage*, BLM must allow development despite severe impacts to winter ranges and big game, except for being able to require very limited "reasonable measures." These reasonable measures cannot be nearly broad enough to ensure crucial winter ranges and parturition areas are protected at the operation *and* production stage. *See* 43 CFR 3101.1-2.	maintenance and operation activities within Designated Development Areas unless otherwise identified. Timing limitation stipulation and site-specific COAs/stipulations will be applied to oil and gas and ROW maintenance and operation activities conducted outside of Designated Development Areas where the activity could disturb wildlife during critical times of the year. Identified non-emergency related maintenance and operation activities outside Designated Development Areas that could be disruptive to wildlife during the breeding, nesting/birthing, and winter periods would be subject to a timing limitation stipulation COA/stipulation. Table F.2, "Maintenance and Operation Activities for Oil and Gas and ROW Operations Outside Designated Development Areas Subject to COAs/Stipulations" (p. 230), identifies the activities that would be subject to the timing limitation stipulation COA/stipulation. More extensive/ expansive/ restrictive mitigation, including adaptive management, could be developed during the site-specific NEPA analysis that would be required to address any specific post-lease exploration or development actions that are proposed and could include additional measures to mitigate impacts to wintering big game from production related activities. With

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			appropriate site-specific analysis, restrictions on production related activities could be imposed. The BLM coordinates with the WGFD in the review of all APDs in big game crucial winter range, and considers "best practices" necessary to mitigate any potential negative impacts, in accordance with our MOU. The public, as well, is encouraged to participate in this process.
26	WEG/ RMW	The Wyoming Game and Fish Commission (WG&F) has a formal policy relative to disturbance of crucial habitats, including crucial winter ranges. Crucial habitat is habitat "which is the determining factor in a population's ability to maintain and reproduce itself . . . over the long term." *Id.* at 7. WG&F further describes big game crucial winter ranges as vital habitats. Vital habitats are those which directly limit a community, population, or subpopulation (of species), and restoration or replacement of these habitats may not be possible. The WG&F has stated that there should be "no loss of habitat function" in these vital/crucial habitats, and although some modification may be allowed, habitat function, such as the location, essential features, and species supported must remain unchanged. Mitigation Policy at 5. Furthermore, Wyoming Game and Fish released the recommended minimum standards to sustain wildlife in areas affected by oil and gas development. Their policy recognized the ineffectiveness of winter range stipulations standing alone as currently applied. Mitigation Policy at 6. In all cases, Wyoming's new mitigation policy recommends going beyond just the winter drilling timing limitations, which BLM currently applies to lease parcels on crucial winter range. In addition to the winter timing limitations, the Mitigation Policy includes a suite of additional standard management practices. Mitigation Policy	The WGFD as part of the State of Wyoming is a cooperator in all planning processes and decisions. They continue to be involved in these leasing processes as well. WGFD biologists participate in the review of the lease parcels. The WGFD Headquarters Office in Cheyenne also has the opportunity to comment on the analysis. Development cannot be reasonably determined at the leasing stage, nor can impacts realistically be analyzed in more detail at this time. If development should occur, proposals shall be analyzed in a site specific NEPA document, which shall addresses resource concerns.

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		at 9-11, 52-58. These additional management practices include planning to regulate the pattern and rate of development, phased development, and cluster development, among many other provisions. Mitigation Policy at 52. Clearly, the timing limitation stipulation applicable to the Crucial Winter Range Parcels is not in compliance with the State of Wyoming's policies and plans regarding the protection of wildlife. The timing stipulation, standing alone, does not ensure protection of habitat function. There is absolutely no guarantee, or even the remote likelihood that the location, essential features, and species supported on the crucial winter range will remain "unchanged." Scientific literature makes it clear that there will be loss of function if significant exploration and development occurs on the leaseholds. In prior Protests the parties have submitted substantial evidence showing that big game species are negatively affected by oil and gas drilling on winter ranges. See the studies referenced above. These studies document the negative effects of oil and gas drilling on big game winter ranges and winter range use, as well as on big game migration routes, even when winter timing stipulations are in effect. For parcels intersecting migration corridors to be offered at auction, special timing limitation stipulations should be attached that prevent construction, drilling, or production-related activity and vehicle traffic on the lease during the migration periods. To these parcels, BLM should attach stipulations that prohibit not just construction activity but also project-related vehicle traffic and human presence at the wellsite within 0.5 mile of the migration corridor during its season(s) of use.	
27	WEG/ RMW	The findings in the scientific and popular literature have been confirmed in recent BLM NEPA documents. The Green River EIS/RMP/ROD is replete with documentation of the importance of crucial winter ranges, and their	Thank you for your comment.

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		ongoing loss, despite the stipulation required by BLM. Green River EIS/RMP at 347-349. ("Probably the single most important factor affecting antelope populations are weather," at 438-441.) (" . . . oil and gas development in Nitchie Draw causing forage loss and habitat displacement;" "Displaced wildlife move to less desirable habitat where animals may be more adversely stressed . . .;" "Long-term maintenance and operations activities in crucial wildlife habitats would continue to cause displacement of wildlife from crucial habitats, including . . . crucial big game winter habitats;" "Surface disturbing activities would continue to cause long-term loss of wildlife habitat," etc.) The Jack Morrow Hills EIS also documents the importance of crucial winter ranges, particularly to elk, and the sensitivity of wildlife on winter ranges not only to drilling during the winter period, but also due to ongoing displacement and disturbance of wildlife from oil and gas development. Jack Morrow Hills EIS at 4-61 to 4-64, 4-80 to 4-88. The Rawlins RMP Draft EIS further documents the negative effects of oil and gas drilling on big game when on winter ranges. Rawlins RMP Draft EIS at 3-131 to 3-136.	
28	WEG/ RMW	Given this evidence and the simple fact that each well pad converts 3-5 acres of crucial winter range to bare ground for extended periods of time, there is no rational basis for BLM to claim that it meets Wyoming's mitigation policy. It is impossible for crucial winter ranges to remain "unchanged" in terms of the location, essential features, and species supported, even if drilling does not take place during the timing stipulations. What is worse, however, is the fact that drilling *does* take place during the timing stipulations when they are waived, as they frequently are. Crucial winter ranges will clearly not remain "unchanged" because BLM has not retained the authority to condition well operations (lasting for decades) at the leasing stage.	Beyond the scope of this document. Development cannot be reasonably determined at the leasing stage, nor can impacts realistically be analyzed in more detail at this time. If development should occur, proposals shall be analyzed in a site specific NEPA document, which shall addresses resource concerns.
29	WEG/	The Federal Land Policy and Management Act (FLPMA) requires BLM to	Thank you for your comment.

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	RMW	"coordinate the land use inventory, planning, and *management activities* of [public lands] with the land use planning and management programs of . . . the States and local governments . . . by, among other things, considering the policies of approved State and tribal resource management programs." 43 USC 1712I(9) (emphasis added). BLM must give special attention to "officially approved and adopted resource related plans." 43 CFR 1601.0-5(g). BLM must remain apprised of State land use plans, assure they are considered, and resolve to the extent practical, inconsistencies between state and federal plans. 43 USC 1712I(9).	
30	WEG/ RMW	There is no indication that BLM's winter timing stipulation is based on consideration of Wyoming's 1998 Mitigation Policy, or its new programmatic standards policy. It is apparent there has been no attempt to resolve inconsistencies between what BLM's stipulation provides and what Wyoming's mitigation policy requires. There are certainly inconsistencies. BLM's timing stipulation attempts to prohibit drilling during limited periods, yet this prohibition is frequently waived. Indeed, quite recently the WG&F asked BLM in Wyoming not to grant any waivers of stipulations last winter due to the lack of quality forage for big game in their winter range and the anticipated impacts that year-round drilling will have on big game under those conditions. BLM has refused to accede to this request and has proceeded to grant waivers and exceptions. Wyoming's mitigation policy specifically seeks to fill gaps left by the timing stipulation, by requiring a number of standard management practices on crucial winter ranges in all cases. These recommendations are standing policy which WG&F expects to be applied in every instance of leasing in crucial winter range.	Beyond the scope of this document. Oil and gas stipulations have been developed for the approved RMPs, and their applicability is being evaluated in the leasing EA. The BLM is not considering development of new lease stipulations for the parcels not anticipated for deferral. The WGFD as part of the State of Wyoming is a cooperator in all planning processes and decisions. They continue to be involved in these leasing processes as well. WGFD biologists participate in the review of the lease parcels. The WGFD Headquarters Office in Cheyenne also has the opportunity to comment on the analysis.
31	WEG/ RMW	These inconsistencies are even more glaring when one considers the fact that BLM's timing stipulation does not regulate the production phase. Until BLM	Oil and gas stipulations are developed through the Resource Management Plan EIS process, including

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		considers and attempts to resolve these inconsistencies, it cannot allow the sale of the Crucial Winter Range Parcels to go forward. To do so would be a violation of NEPA. Furthermore, timing stipulations attached to the Crucial Winter Range Parcels are inconsistent with the policy of the BLM Wyoming State Office, as enunciated in the Revised Umbrella Memorandum of Understanding (MOU) between BLM and Wyoming Game and Fish Department. The various requirements in the WG&F minimum programmatic standards for oil and gas development establish "sideboards" as to what actions need to be taken to prevent unnecessary or undue degradation. BLM has not considered these standards from the perspective of its FLPMA-imposed requirement to prevent unnecessary or undue degradation. BLM is not meeting its duty to take "any" action that is necessary to prevent unnecessary or undue degradation. 43 USC 1732(b). Once again, this failure is most apparent where application of the winter timing stipulation does not even regulate ongoing operations such as production. BLM has an independent duty under FLPMA to take any action necessary to prevent unnecessary or undue degradation, in addition to its NEPA duty to coordinate its activities with the State of Wyoming and comply with the MOU. Since BLM has given up its ability to require restrictions in the future by not imposing sufficient stipulations at the leasing stage, the effect of this failure to require adequate restrictions at the leasing stage violates FLPMA by permitting unnecessary or undue degradation when oil and gas development commences. The parties also recommend against the sale of the Crucial Winter Range Parcels on the basis that their sale would cause unnecessary or undue degradation of public lands. "In managing the public lands the [Secretary of	allocation decisions, in accordance with FLPMA. Changes to allocation decisions (or lease stipulations) require a planning amendment or maintenance action. Subsequently, all implementation decisions must be in conformance with the approved RMP. Leasing stipulations have been applied to Lander parcels in conformance with the approved Land Use Plan. Reference the Lander RMP (2014), Appendix F: Wildlife timing limitation stipulation COAs/stipulations will not apply for long-term maintenance and operation activities within Designated Development Areas unless otherwise identified. Timing limitation stipulation and site-specific COAs/stipulations will be applied to oil and gas and ROW maintenance and operation activities conducted outside of Designated Development Areas where the activity could disturb wildlife during critical times of the year. Identified non-emergency related maintenance and operation activities outside Designated Development Areas that could be disruptive to wildlife during the breeding, nesting/birthing, and winter periods would be subject to a timing limitation stipulation COA/stipulation. Table F.2, "Maintenance and Operation Activities for Oil and Gas and ROW Operations Outside Designated Development Areas Subject to COAs/Stipulations"

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		Interior] shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands." 43 U.S.C. § 1732(b) (emphasis added). BLM's obligation to prevent unnecessary or undue degradation is not discretionary; it is mandatory. "The court finds that in enacting FLPMA, Congress's intent was clear: Interior is to prevent, not only unnecessary degradation, but also degradation that, while necessary . . . is undue or excessive." Mineral Policy Center v. Norton, 292 F.Supp.2d 30, 43 (D.D.C. 2003) (emphasis added). The BLM has a statutory obligation to demonstrate that leasing will not result in unnecessary or undue degradation.	(p. 230), identifies the activities that would be subject to the timing limitation stipulation COA/stipulation. Regarding the Bighorn Basin Draft RMP, the BLM follows the Council on Environmental Quality Regulations, 40 CFR 1506, that state until an agency issues a record of decision as provided in Section 1505.2, no action concerning the proposal shall be taken which would (1) have an adverse environmental impact; or (2) limit the choice of reasonable alternatives. Therefore, parcels were reviewed utilizing existing RMP resource allocations and then reviewed in accordance with ongoing RMP alternatives to ensure BLM is in compliance with the above stated CEQ regulations. Where there are no recommended significant changes in stipulations from the existing RMP to the Draft Bighorn Basin RMP, leases are appropriately stipulated and recommended for sale. This action does maintain the integrity of the planning process pursuant to CEQ guidance on maintaining alternative under review as well as guidance found in WO IM 2004-110, Change 1. More extensive/ expansive/ restrictive mitigation, including adaptive management, could be

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			developed during the site-specific NEPA analysis that would be required to address any specific post-lease exploration or development actions that are proposed and could include additional measures to mitigate impacts to wintering big game from production related activities. With appropriate site-specific analysis, restrictions on production related activities could be imposed. The BLM coordinates with the WGFD in the review of all APDs in big game crucial winter range, and considers "best practices" necessary to mitigate any potential negative impacts, in accordance with our MOU. The public, as well, is encouraged to participate in this process. The WGFD as part of the State of Wyoming is a cooperator in all planning processes and decisions. They continue to be involved in these leasing processes as well. WGFD biologists participate in the review of the lease parcels. The WGFD Headquarters Office in Cheyenne also has the opportunity to comment on the analysis.
32	WEG/ RMW	Conclusion Thank you for considering our comments on the February 2016 Leasing EAs. Currently, the action alternatives are not implementable absent full-scale EISs, as they will result in significant impacts to sage grouse, big game crucial ranges, and other sensitive resources. Even more work remains to be done on	Thank you for your comments.

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		big game crucial ranges, and other sensitive wildlife habitats. We believe that the BLM should also go farther, deferring additional parcels on sensitive lands as outlined above and also applying more protective stipulations to the parcels that are approved for sale. Sincerely yours, Erik Molvar, Wildlife Biologist; Matthew Sandler, Staff Attorney, Rocky Mountain Wild, 1536 Wynkoop St., Suite 303, Denver, CO 80202, Phone: 303-546-0214 ext. 1	
33	WildEarth Guardians (WEG)	The following are the comments of WildEarth Guardians' Climate and Energy Program on the Environmental Assessments ("EAs") for the Bureau of Land Management ("BLM") Wind River/Bighorn Basin ("WRBB") and High Plains ("HP") Districts February 2016 oil and gas lease sales. Please provide notice to me at tream@wildearthguardians.org when further action, including but not limited to issuance of a finding of no significant impact, is taken on this lease sale. Please also provide notice when any period for a formal protest or pre---decisional objection is set. In the future, BLM Wyoming should publish the address to which comments must be sent in the same location it publishes the EAs. The public should not have to search for Federal Register or newspaper notices to discover where BLM requires comments to be sent. The appropriate addresses belong on the BLM website in the same location where the EAs can be accessed. I was only able to identify the proper addresses for sending comments after calling BLM Wyoming and being sent links to press releases. One would not generally think to search press releases when looking for NEPA comment addresses. In the absence of any clearly stated address connected to the EAs themselves, BLM Wyoming conveys the impression that it is uninterested in what the public has to say about the public environmental review it is engaged in. It creates the	Comments from WildEarth Guardians (WEG) regarding the February 2016 Lease Parcels EA were submitted as a combined document for both the Wind River/Bighorn Basin District (WRBBD) February 2016 Lease Sale and the High Plains District (HPD) February 2016 Lease Sale. *As these are two distinct sales, in two distinct districts, with two distinct EA's, responses in this section apply only for the Wind River/Bighorn Basin District February 2016 Lease Sale EA.* BLM Wyoming's Oil And Gas Leasing Reform Implementation Plan (Plan) became effective with the May 2011 lease sale. This plan established a process for ensuring orderly, effective and timely implementation of Oil and Gas Leasing Reform for Wyoming BLM, to comply with WO-IM 2010-117. This implementation process conforms with law and regulation requiring four lease sales per year, while providing for a clear,

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		impression BLM is only interested in pushing through lease sales regardless of the consequences to the human environment. This may be because, for many years, the Bureau of Land Management ("BLM") Wyoming has prioritized coal, oil and gas leasing and related development over all other uses, such as wildlife, watersheds, and public recreation. The error of this approach is increasingly obvious. In these EAs and throughout the agency's work, BLM fails to recognize that already existing federal coal, oil, and gas leases, if fully developed, will result in climate emissions that far exceed a safe and livable global temperature rise and will render our oceans too acidic for much existing marine life. With every new set of leases, like the ones proposed, BLM further breaks the global carbon budget, signals that other countries can behave just as irresponsibly, and increases the intensity of current and future catastrophic climate impacts. See The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels, Ecoshyft (August 2015) Ex 1. As detailed below, the problems with these proposed lease sales and their National Environmental Policy Act ("NEPA") EAs, especially in regard to climate impacts, are so pervasive that BLM should scrap the entire effort and adopt the no action alternatives. In any case, it is clear that these NEPA analyses are so inadequate they cannot support project approvals without supplemental analyses.	consistent leasing process designed to protect multiple resource values. Part of the Plan is a mandatory 30-day Public Comment Period for EAs and an unsigned Finding of No Significant Impact (FONSI) for oil and gas leasing, before forwarding the leasing recommendation to the BLM Wyoming State Office. This information is posted on the BLM Wyoming website. BLM Wyoming holds lease sales four times per year, as required by the Mineral Leasing Act, section 226(b)(1)(A), and 43 CFR 3120.1-2(a), when eligible lands are determined to be available for leasing. BLM Wyoming developed a sales schedule with the emphasis on rotating lease parcel review responsibilities among field offices/district offices throughout the year to balance the workload and to allow each field office/district office sufficient time to implement the parcel review policy established in H-1624-1. The Wyoming district sales rotation will be as follows: nominations for each District are processed twice a year, with the Wind River/Bighorn Basin District and the High Plains District in February and August, and the High Desert District in May and November.

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			A press release is issued to news outlets and is posted on the BLM Wyoming Oil and Gas website, identifying the 30 day posting period, as well as where and how to submit comments. A link on that website has contact information regarding questions the public may have regarding leasing, including commenting on the leasing EAs. Another link is for the Nomination & Lease Sale Schedule. The BLM Wyoming website NEPA link outlines the procedure for public involvement and comment in the NEPA process. http://www.blm.gov/wy/st/en/info/NEPA.html In reviewing the BLM Wyoming oil and gas website, WildEarth Guardians (WEG) has been submitting comment letters, and protests, for the lease sales beginning with February 2014 and continuing through February 2016 (nine leasing EAs), which would lead to a conclusion that WEG has the information to submit comments. For more information about oil and gas and leasing and the leasing EAs, please visit the BLM Wyoming website at: http://www.blm.gov/wy/st/en/programs/energy/Oil_and_Gas.html

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34	WEG	BLM Fails to Follow the Council on Environmental Quality Guidance on Climate Change and NEPA BLM Wyoming has had plenty of time since the December 2014 release of the Council on Environmental Quality's ("CEQ") "Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts" ("CEQ Guidance") to review and to incorporate its recommendations. Ex. 2. Despite the intervening months, BLM Wyoming continues to ignore most of the requirements set forth in the guidance. That such behavior is widespread in Wyoming and throughout BLM's oil and gas program suggests a failure of leadership at the highest levels of the Department and the Administration. A programmatic EIS is necessary Put simply, BLM is failing to describe or to analyze climate impacts from its oil and gas program. The repeated pattern and practice of such failure suggests that only a programmatic analysis at the national level can address this shortcoming. In fact, a programmatic analysis is exactly what the DEQ Guidance calls for. The Guidance suggests that for "long---range energy" actions, "it would be useful and efficient to provide an aggregate analysis of [greenhouse gas] emissions or climate change effects in a programmatic analysis and then incorporate by reference that analysis into future NEPA review." CEQ Guidance at 29. The lack of climate analysis in the long---range energy EAs in question demonstrates that the Wyoming office, along with other state offices as demonstrated in other recent oil and gas leasing EAs, is incapable or unwilling to undertake adequate review of greenhouse gas ("GHG") emissions or climate change effects. This is exactly why the CEQ Guidance is correct in calling for programmatic analysis of climate emissions and effects for programs like the BLM oil and gas leasing program. In fact, when listing examples of	Beyond the scope of this document. The February 2016 Oil and Gas Lease Sale is an administrative leasing action. The act of leasing land for oil and gas development in itself does not directly emit any carbon or greenhouse gasses. A discussion of Air Quality and Climate Change has been addressed in the EA in part 3.3.1. Land Use Plans or Resource Management Plans (RMP) consider the availability of public lands for oil and gas leasing. This leasing EA addresses how those nominated parcels will be stipulated in conformance with the RMPs. If an Application for Permit to Drill is received proposing to develop a lease parcel, site specific analysis of the impacts is conducted and impacts will be mitigated as determined necessary. Absent a definitive development proposal it is not possible to conduct a more specific impact and/or cumulative effects analysis. BLM cannot determine at the leasing stage whether or not a nominated parcel will actually be leased, or if leased, whether or not the lease would be explored or developed or at what intensity development may occur. Additional NEPA compliance documentation would be prepared at the time an APD(s) or field development proposal is

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		"site---specific actions that can benefit from a programmatic NEPA review," authorizing leases for oil and gas drilling is specifically mentioned. CEQ Guidance at 30. Thus, the CEQ Guidance creates an expectation that BLM would undertake a programmatic EIS of its oil and gas program. Where an agency has chosen to ignore programmatic analysis in favor of site---specific climate analysis, it is required to "set forth a reasoned explanation" for that failure. CEQ Guidance at 4. BLM has not done so in these EAs, claiming only that since emissions cannot be estimated with certainty, it will not even try. Absent such programmatic analysis, BLM is still required to adequately analyze climate impacts and to "apply fundamental NEPA principles to the analysis of climate change through assessing GHG emissions" as per the Guidance and the law itself. CEQ Guidance at 30. The failures to apply fundamental NEPA principles in analyzing climate emissions and effects in these leasing EAs are manifold. BLM does not have the discretion to ignore existing information and tools and simply wave away emissions as insignificant The touchstone of any NEPA analysis is to take a hard look at impacts and provide useful information to decisionmakers and the public; the analysis of climate impacts is no different. CEQ Guidance at 2. Such analysis does not require the development of new information or tools for analysis, but does require that existing information and tools are applied appropriately. CEQ Guidance at 4. BLM should heed CEQ's advice that providing climate change analysis will not only satisfy the critically important mandates of NEPA, but will also reduce the risk of litigation. CEQ Guidance at 2. It is true that agencies have discretion in how to apply available information and	submitted. The BLM also has acknowledged that climate science does not allow a precise connection between project-specific GHG emissions and specific environmental effects of climate change. This approach is consistent with the approach that federal courts have upheld when considering NEPA challenges to BLM federal coal leasing decisions. WildEarth Guardians v. Jewell, 738 F.3d 298, 309 n.5 (D.C. Cir. 2013) WildEarth Guardians v. BLM, , 8 F. Supp. 3d 17; 34 (D.D.C. 2014) The BLM's policies currently do not require calculating emissions of Greenhouse Gases, particularly when the land use activities that could result in greenhouse gas emissions are speculative or uncertain, as is the case, here.

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		tools, but the depth of this discretion is a function of the agency's "expertise and experience" with climate change and its impacts. CEQ Guidance at 5. It is clear that such experience and expertise is largely absent in state BLM offices, including the Wyoming Office, which until recently have had serious problems even admitting that climate change exists, let alone adequately describing it with up-to-date science. Given this lack of experience and expertise, agency discretion to ignore the CEQ Guidance is at its low ebb, especially at the state office level, again suggesting that the need for national programmatic analysis of the BLM oil and gas leasing program. To address its lack of experience and expertise with climate analysis, it is not unusual, including in these two EAs, to find state offices relying on outdated and inapplicable boilerplate text to cover the gaps in analysis. "It is essential, however, that Federal agencies not rely on boilerplate text to avoid meaningful analysis, including consideration of alternatives or mitigation." CEQ Guidance at 5-6. Unfortunately, that is exactly what has happened in the EAs in question. In one glaring example, included in both current and past Wyoming oil and gas lease sale EAs, BLM simply makes rote claims that climate impacts are insignificant due to the large volume of GHGs emitted elsewhere. *See,* e.g., WR EA at 4-5 - 4-6. These assertions are made with little or no qualitative or quantitative analysis. This directly contradicts the CEQ Guidance. "[P]roviding a paragraph that simply asserts, without qualitative or quantitative assessment, that the emissions from a particular proposed action represent only a small fraction of local, national, or international emissions or are otherwise immaterial is not helpful to the decisionmaker or public." CEQ Guidance at 6. This is because climate change happens by "a series of smaller decisions," incrementally, in this case, well by well, lease by lease. CEQ Guidance at 9, citing *Massachusetts v. EPA*, 549 U.S. 497, 523-25 (2007). Such statements, as the one BLM Wyoming made in the WR EA, do not "reveal anything beyond	

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		the nature of the climate challenge itself." CEQ guidance at 9. CEQ has made crystal clear, this lack of analysis fails to meet the mandates of NEPA. Actual emissions, including from oil and gas use, must be analyzed for lease sales The core of any climate change NEPA analysis is an actual analysis of emissions. BLM fails here to provide one. Actual estimates of emissions are required even when they are uncertain and can at best be "projected." CEQ guidance at 8. When an agency ignores this guidance and does not choose to project emissions, "the agency should document the rationale for that determination." CEQ Guidance at 10. Here, BLM Wyoming has failed to estimate emissions and failed to document its rationale for that failure, beyond its claim that to do so would be difficult and uncertain. This is not enough. All estimates of future project emissions are speculative, but nonetheless required by NEPA whenever reasonably foreseeable. To estimate emissions here would not be difficult and has and is being done other BLM offices. BLM seems to think that fossil fuel leasing is a special example that absolves it of this requirement to estimate emissions. CEQ, however, makes a specific point, to state that such estimates are required when leasing fossil fuels. For example, the "development of a coal resource" requires an estimate of resulting emissions. CEQ Guidance at 12. Moreover, not just emissions, but the long---term climate effects of such an action must be analyzed to fulfill NEPA's mandate. CEQ Guidance at 12. Please note, the Guidance is applicable to site---specific actions, like an individual lease, but also to "Federal land and resource management decisions," like resource management plans. CEQ guidance at 8. Thus, GHG emissions and	

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		climate impacts should be analyzed in a Resource Management Plan, which was not done here, at the oil and gas leasing stage, which was not done here, and, at the application for permit to drill stage, which, as shown below, is not being done by BLM Wyoming either. Put simply, NEPA analysis is required for all proposed Federal actions, 40 CFR § 1508.18, and the analysis of climate impacts is no different, CEQ Guidance at 8. Further, such effects are not limited, as BLM supposes, only to the climate pollution that results from construction and production of fossil fuels. The "reasonably foreseeable effects" on our climate that must be analyzed under NEPA include those that come from "using the resource." CEQ guidance at 12. Downstream emissions should be accounted for in NEPA analysis. CEQ Guidance at 11. Thus, the analysis of emissions from the burning of oil and gas must be included oil and gas leasing EAs, which was not done here. There is a presumption that climate emissions are quantitatively analyzed; if BLM chooses to do otherwise, it must "explain its basis for doing so." CEQ guidance at 16. One basis for providing no more than a qualitative analysis is that the tools and information for producing quantitative analysis are not available. CEQ Guidance at 15. If, however, such tools and information are available, BLM "should conduct and disclose quantitative estimates of GHG emissions." CEQ Guidance at 15. Again, such emissions estimates must include those from fossil fuel combustion. CEQ Guidance at 15. Here, it is clear that BLM has the tools and information to estimate project emissions. For years, BLM state offices have estimated fossil fuel production from lease sales so that they could tout the economic impacts of the proposed projects. See, e.g., Ex. 3 – Utah BLM May 2015 Oil and Gas Lease Sale Environmental Assessment (December 2014) at 30---31. The U.S. Forest	

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		Service is also capable of estimating emissions from a BLM lease sale. See, e.g., Ex. 4 – Pawnee National Grassland Oil and Gas Leasing Analysis Draft Environmental Impact Statement (August 2014) at 277---87. Once BLM has an estimate of possible fossil fuels produced from a project, it is quite simple to calculate the climate emissions that will result from the combustion of those fuels. Likewise, BLM has the information to estimate construction and production emissions and can easily apply the existing and widely known scientific literature to estimate methane releases. If uncertainty must be handled by presenting a range of possible estimates, that is an acceptable practice under NEPA. The EAs in question here do not utilize these available tools and information to estimate emissions, in clear contradiction to CEQ's Guidance. Please note, although the CEQ Guidance suggests agencies' should apply a rule of reason when determining the level of effort expended in analyzing GHG emissions, this is not a justification for avoiding a quantitative analysis for the projects in question. First, as noted above, "[i]f tools or methodologies are available, . . . agencies should conduct and disclose quantitative emissions." CEQ Guidance at 15. Second, the rule of reason means "reasonably proportionate to the importance of climate change related considerations to the agency action being evaluated." CEQ Guidance at 14. Climate emissions from the BLM oil and gas leasing program have never been evaluated at the programmatic, resource management plan, leasing, or applications for permit to drill levels. Onshore fossil fuels other than coal are currently responsible for a whopping 19% of federal leasing emissions. Ex. 5 --- Cutting Greenhouse Gas From Fossil---Fuel Extraction on Federal Lands and Waters (CAP Report), Center for American Progress (March 19, 2015) at 4. That represents approximate 6% of all energy---related emissions in the U.S. See CAP Report at 1 noting total federal lands and waters energy related emissions at 24% and multiplying by 19%. This is a huge and nationally important volume of	

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		emissions that has never been analyzed under NEPA in any fashion. Until BLM completes a quantitative analysis of emissions of its oil and gas leasing program at the programmatic level, there can be no doubt that emissions from individual federal lease sales warrant a quantitative estimate. Finally, the rule of reason still demands that BLM "ensure the professional and scientific integrity of [its] decisions and analysis." CEQ Guidance at 14, citing 40 CFR § 1502.24. BLM offices, including BLM Wyoming, earlier this year were still denying the basic conclusions of climate science and still to this day cannot always admit of basic climate science conclusions. Any such office has sacrificed any appearance of professional and scientific integrity if it follows earlier climate denial by now refusing to estimate the carbon emissions of its projects. For each of these three reasons, the CEQ Guidance makes clear that the rule of reason provides no rationale for avoiding a quantitative estimate of emissions for the projects in question. Estimates of climate emissions need to be put in context and the social cost of carbon is an appropriate tool for doing so. An estimate of emissions presented, without any context, means little to decisonmakers or the public. A ton or a gigaton of carbon dioxide equivalent ("CO2e") is no more than meaningless gibberish to all but those most deeply steeped in climate science. Thankfully, a simple tool that contextualizes emissions by translating tons of carbon into estimates of the costs to society of emitting that carbon is readily available. This social cost of carbon ("SCC") evaluation tool is discussed in more depth in later sections. BLM Wyoming has suggested various reasons why the SCC is not an appropriate tool for contextualizing climate emissions. The CEQ Guidance	

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		recognizes that SCC estimates "vary over time, are associated with different discount rates and risks, and are intended to be updated as scientific and economic understanding improves." CEQ Guidance at 16. These shortcomings, however, do not disqualify the methodology from use under NEPA or otherwise render it useless. Id. The CEQ Guidance discusses SCC solely in terms of cost--- benefit analyses. Id. This discussion does not, however, in any way suggest that the SCC is an inappropriate tool for other aspects of NEPA analysis. These comments do not call for a cost---benefit analysis. Instead, we merely contend that once emissions estimates for a project exist, it is a simple calculation to cast those emissions estimates in terms of the costs to society from resulting climate change. Failure to do so is a failure to provide decisonmakers and the public with a critical context for understanding the importance of a particular amount of climate emissions. In summary, the CEQ Guidance provides a meaningful roadmap for a BLM office like BLM Wyoming that is clearly struggling with it ability to present meaningful analysis of the climate impacts of its fossil fuel projects. Unfortunately, BLM Wyoming, whether willfully or by ignorance, has failed to employ nearly every relevant point presented by CEQ. This alone renders the EAs inadequate to meet the requirements of NEPA.	
35	WEG	BLM Fails to Analyze Climate Emissions or Their Impacts The analysis of climate emissions and impacts is required regardless of the CEQ Guidance. The lack of analysis of climate change presented in these EAs should be an embarrassment to the BLM and to the Department of the Interior as a whole, from the Secretary of the Interior on down. Federal law, honest science, and BLM policy make clear that climate impacts from these projects	Beyond the scope of this document. The February 2016 Oil and Gas Lease Sale is an administrative leasing action. The act of leasing land for oil and gas development in itself does not emit any carbon or greenhouse gasses, or air pollutants, nor cause climate change.

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		must be assessed and presented to the public and decisionmaker. Such impacts, at minimum, include an estimate of project emissions and an estimate of the social costs of carbon. It is shocking to note that the scientists at the BLM High Plains District cannot bring themselves to admit that climate change is happening. Although the phrase "climate change" appears in connection with the phrase "greenhouse gases," HP EA at 13, one can note that there is no acknowledgement whatsoever that GHGs are causing climate change and its numerous negative global impacts. The problem of climate change is dismissed without analysis since climate science is inexplicably thought by BLM to be in a "formative phase." Id. Rejecting the reasonably foreseeable standard of NEPA, the High Plains district refuses to undertake climate analysis because they can't do so with "certainty." It is odd then that elsewhere in the Wyoming BLM, it is understood that climate change is "unequivocal" and that the GHG climate change nexus is "very likely." WRBB EA at 3---3. Of course, this is the consensus science, but it is ignored in favor of the whim of various district offices. This kind of sloppy analysis renders the EAs inadequate to support project approval. This level of "analysis" does not differ much in effect from BLM Utah's Environmental Assessments for the May 2015 Oil and Gas Lease Sale in the Cedar City and Ritchfield Field Offices. https://www.blm.gov/ut/enbb/files/2015_02_06_CCFO_FINAL_EA,_May_2015_O&G_Lease_Sale.pdf at 62---62 and https://www.blm.gov/ut/enbb/files/RFO.EA.Final.2.13.2015.pdf at 68. These effective expressions of climate denial by BLM Utah brought a sharp rebuke from the Washington office in a memo written earlier this year which has not been formally released to the public but has been acknowledged by BLM. Ex.	A discussion of Air Quality and Climate Change has been addressed in the EA in part 3.3.1. Land Use Plans or Resource Management Plans (RMP) consider the availability of public lands for oil and gas leasing. This leasing EA addresses how those nominated parcels will be stipulated in conformance with the RMPs. If an Application for Permit to Drill is received proposing to develop a lease parcel, site specific analysis of the impacts is conducted and impacts will be mitigated as determined necessary. Absent a definitive development proposal it is not possible to conduct a more specific impact and/or cumulative effects analysis. BLM cannot determine at the leasing stage whether or not a nominated parcel will actually be leased, or if leased, whether or not the lease would be explored or developed or at what intensity development may occur. Additional NEPA documentation would be prepared at the time an APD(s) or field development proposal is submitted. The BLM also has acknowledged that climate science does not allow a precise connection between project-specific GHG emissions and specific environmental effects of climate change. This approach is consistent with the approach that

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		6. That memo instructs offices to use quantitative estimates of GHG emissions "as a reasonable proxy for the effects of climate change" in NEPA analyses. Please note: that instruction was the result of a failure to analyze emissions in a lease sale. That instruction was again ignored here by the exclusion of such analysis from the EAs in favor of a continuing but unfulfilled promise to undertake further analysis when analyzing impacts from applications for permit to drill ("APD"). This promise has several additional problems. First, NEPA has a mandate to assess impacts at the earliest opportunity. Having already ignored such analysis by failing to include it in a programmatic analysis or in the analysis for RMPs, BLM is now claiming it will undertake analysis at the last possible moment, not the earliest opportunity. But even that analysis is not actually happening, despite BLM's assurances. BLM Wyoming does not post its NEPA analyses for APDs on its website for public review. Thus, if BLM were analyzing these impacts, it would take a tremendous level of effort on the part of the public to review and comment on these many APDs. Given past analysis, it is obvious that public review would be critical to assuring adequate analysis. However, a few BLM Wyoming APD EAs can be located on line. Two recent BLM Wyoming NEPA analyses showed no effort whatsoever to analyze climate impacts. Ex. 7 – Bridle Bit 1 POD APD Environmental Assessment and Decision Record (April 29, 2015) and Ex. 8 – Fleicshman APD Categorical Exclusion and Decision Record (May 28, 2015). BLM's failure to analyze climate impacts even at the most site---specific level undercuts all of its claims as to why it cannot do so sooner. "We will do it later" doesn't cut it under NEPA, even the less so when that claim is not true.	federal courts have upheld when considering NEPA challenges to BLM federal coal leasing decisions. WildEarth Guardians v. Jewell, 738 F.3d 298, 309 n.5 (D.C. Cir. 2013) WildEarth Guardians v. BLM, , 8 F. Supp. 3d 17; 34 (D.D.C. 2014) The BLM's policies currently do not require calculating emissions of Greenhouse Gases, particularly when the land use activities that could result in greenhouse gas emissions are speculative or uncertain, as is the case, here.

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		Thus BLM Wyoming has again ignored its own Headquarters office, ignored the White House's Council on Environmental Quality, ignored global scientific consensus, ignored the plain meaning of NEPA, and ignored common sense. The EA must be supplemented to include an analysis of climate change and project effects on climate change using the best available science and following agency and government-wide guidance and the law.	
36	WEG	The EA Fails to Estimate Project Emissions The EAs do not estimate climate emissions. To justify the failure to analyze this critical problem, BLM baldly claims that "[n]o impacts to air quality or climate change would result from this alternative." WRBB EA at 4-11. BLM claims that there would be "[n]o direct impacts to GHG emissions," but does so without attempting to analyze or quantify whether indirect GHG emissions would occur. HP EA at 49. BLM incongruously does this while admitting that its decision "may contribute to new wells being drilled." HP EA at 50. Where BLM makes a half---hearted attempt to quantify some emissions related to drilling, it ignores emissions related to the use of the resource extracted. HP EA at 51. There no legitimate justification offered for failing to analyze impacts. BLM is leasing more than 127,000 acres amidst vast oil and gas fields for the purpose of oil and gas leasing. Further, these lease have been nominated by drilling companies for auction. It is more than reasonably foreseeable that some, if not all, of the parcels nominated will be bid on by those who nominated them, and that a significant percentage, if not all, of those parcels may be developed. Instead of using its own Reasonably Foreseeable Development Scenarios (emphasis added) for oil and gas development, BLM pretends that emissions are not reasonably foreseeable.	The WRBBD EA, under Alternative 1, *The No Action Alternative,* at 4.4.2: "Development of oil and gas resources cannot occur without a lease. Under this alternative, a lease would not be offered for sale, so no development would occur on the nominated parcels. No impacts to air quality or climate change would result from this alternative." Beyond the scope of this document. The February 2016 Oil and Gas Lease Sale is an administrative leasing action. The act of leasing land for oil and gas development in itself does not directly emit any carbon or greenhouse gasses, or air pollutants, nor cause climate change. A discussion of Air Quality and Climate Change has been addressed in the EA in part 3.3.1. Land Use Plans or Resource Management Plans (RMP) consider the availability of public lands for oil and gas leasing. This leasing EA addresses how those nominated parcels will be stipulated in

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		BLM goes even further however. Despite claiming it cannot estimate or analyze emissions, BLM is confident enough to declare that GHG emissions from the proposed project "would not have a measurable effect" on climate change. WRBB EA at 4-3. It bases this conclusion, at least in part, on an estimate of emissions per well that it appears it is able to confidently make. Id. This estimate, while giving the lie to the notion that emissions cannot be estimated in any way, nonetheless ignores emissions from oil and gas use. BLM seems to be simultaneously asserting that it cannot estimate emissions, but then estimating them just enough to know that they are no concern to anyone. This is a gross failure of NEPA's hard look test and the CEQ Guidance that directly contradicts such an approach. The BLM must supplement its EAs with valid estimates of emissions from construction and operation of wells, including both emissions produced onsite and those created from the burning of the oil and gas likely to be produced. Both carbon dioxide and methane emissions must be included. BLM must also use past production to estimate future emissions that will result from production from this agency action. These all must be included in a supplement to the EAs before project approval can proceed.	conformance with the RMPs. If an Application for Permit to Drill is received proposing to develop a lease parcel, site specific analysis of the impacts is conducted and impacts will be mitigated as determined necessary. Absent a definitive development proposal it is not possible to conduct a more specific impact and/or cumulative effects analysis. BLM cannot determine at the leasing stage whether or not a nominated parcel will actually be leased, or if leased, whether or not the lease would be explored or developed or at what intensity development may occur. Additional NEPA documentation would be prepared at the time an APD(s) or field development proposal is submitted. The BLM also has acknowledged that climate science does not allow a precise connection between project-specific GHG emissions and specific environmental effects of climate change. This approach is consistent with the approach that federal courts have upheld when considering NEPA challenges to BLM federal coal leasing decisions. WildEarth Guardians v. Jewell, 738 F.3d 298, 309 n.5 (D.C. Cir. 2013) WildEarth Guardians v. BLM, , 8 F. Supp. 3d 17; 34 (D.D.C. 2014)

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			The BLM's policies currently do not require calculating emissions of Greenhouse Gases, particularly when the land use activities that could result in greenhouse gas emissions are speculative or uncertain, as is the case, here.
37	WEG	The Social Cost of Carbon Has Been Ignored The high costs to society from the leasing and subsequent burning of public lands fossil fuels must be properly analyzed and presented to the public and agency decision makers. Historically, BLM has ignored the costs of fossil fuel leasing on public lands, especially the costs to society that result from global warming. Proper consideration of these social costs of carbon is simply good governance and good stewardship of public resources, and such consideration is legally required. Global warming is responsible for extreme costs to society already, and it will only get worse in the future. A recent consensus report, joined by more 190 countries, makes the basic science on global warming crystal clear. Global warming is unequivocal: since the 1950s the atmosphere and oceans have warmed, snow and ice have diminished, and seas have risen. Ex. 9, Climate Change 2013 – The Physical Science Basis – Summary for Policymakers, United Nation Intergovernmental Panel on Climate change (2013) ("AR5 summary") at 4. There is little doubt that pollution from human activities is the cause of this warming. *Id.* at 17. The U.S. government's own more recent report concludes that global warming is now affecting our country in far-reaching ways. Ex. 10, National Climate Assessment 2014 – Overview ("National Climate Assessment"). Climate	Beyond the scope of this document. The February 2016 Oil and Gas Lease Sale is an administrative leasing action. The act of leasing land for oil and gas development in itself is not directly responsible for activities that could result in impacts including potential 'social costs of carbon'. Land Use Plans or Resource Management Plans (RMP) consider the availability of public lands for oil and gas leasing. This leasing EA addresses how those nominated parcels will be stipulated in conformance with the RMPs. If an Application for Permit to Drill is received proposing to develop a lease parcel, site specific analysis of the impacts is conducted and impacts will be mitigated as determined necessary. Absent a definitive development proposal it is not possible to conduct a more specific impact and/or cumulative effects analysis. BLM cannot determine at the leasing stage whether or not a nominated parcel will actually be leased, or if

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		pollution has warmed the U.S. almost 2°F, mostly since 1970, with another 2°F to 4°F expected in the next few decades. *Id.* Much greater warming in future decades is also possible, possibly up to an increase of 10°F above current temperatures by the end of the century. *Id.* These are not the estimates of "environmentalists." This is the scientific consensus accepted both in the U.S. and around the world. The burning of coal, oil, and gas is the principle source of the largest contributor to global warming, carbon dioxide. *Id.*; see also AR5 summary at 13. At this time, approximately 25% of the carbon dioxide from fossil fuels produced in the U.S. comes from public lands leases. Ex. 11, Greenhouse Gas Emissions from Fossil Energy Extracted from Federal Lands and Waters, Stratus Consulting (February 1, 2012) at 15; see also, Ex. 12, Sales of Fossil Fuels Produced from Federal and Indian Lands – FY 2003 through FY 2013, U.S. Energy Information Administration (June 2014) at 2. Fossil fuels extracted from public lands release more than one and one-half billion metric tons of carbon dioxide equivalent per year. *Id.* at 12. That is the equivalent of more than 31 million passenger cars' annual climate pollution, just from producing and burning fossil fuels from our public lands alone. Greenhouse Gas Equivalencies Calculator, U.S. Environmental Protection Agency at http://www.epa.gov/cleanenergy/energy-resources/calculator.html (last checked July, 9 2015). BLM manages federal mineral rights, including the leasing and approval of extraction of public lands fossil fuels, on all federal lands. Therefore, BLM decision makers play a critical role in determining how much more climate pollution the U.S. will emit to the atmosphere, the extent that that pollution will exacerbate global warming, and the extent that society and future generations	leased, whether or not the lease would be explored or developed or at what intensity development may occur. Additional NEPA documentation would be prepared at the time an APD(s) or field development proposal is submitted. Thank you for your comments.

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		will have to bear the myriad related social costs of those decisions. Global warming is exacting costs on society in numerous ways. Agricultural productivity, including crops, livestock, and fisheries have been negatively impacted by global warming. National Climate Assessment – Overview. This has resulted from extreme weather events, changes in temperature and precipitation, and increasing pressure from pests and pathogens. *Id.* Both water quality and water quantity are being affected by global warming. *Id.* The degradation has resulted from changes in snowpack, extreme weather events, coastal flooding affecting aquifers, and from changes in temperature and precipitation. *Id.* Heat-related deaths and illnesses have grown and are growing. *Id.* Impacts to forest resources from increased forest fires and the resulting impacts to air quality put additional costs on society. *Id.* A wide variety of critical ecosystem functions are degraded by global warming, including habitat for fish and wildlife, drinking water storage, soils, and coastal barriers. *Id.* Carbon dioxide pollution is also responsible for increasing ocean acidification. This list represents only a subset of the social costs of carbon pollution from burning fossil fuels extracted from our public lands. Nonetheless, "[l]ower emissions of heat-trapping gases and particles mean less future warming and less-severe impacts; higher emissions mean more warming and more severe impacts." *Id.* BLM decision makers must consider the social cost of carbon from all proposed land management projects. The requirement to analyze the social cost of carbon is supported by the general requirements of the National Environmental Policy Act ("NEPA") and specifically supported in federal case law. NEPA requires agencies to take a "hard look" at the consequences of proposed agency actions. 42 U.S.C. § 4321	

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		et seq.; *Morris v. U.S. Nuclear Regulatory Commission*, 598 F.3d 677, 681 (10th Cir. 2010). Consequences that must be considered include direct, indirect, and cumulative consequences. 40 C.F.R. §§ 1502.16, 1508.7, 1508.8. A 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." 40 C.F.R. § 1508.7. Analysis of site-specific impacts must take place at the lease stage and cannot merely be deferred until after receiving APDs 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). Any NEPA analysis of a fossil fuel development project that fails to use the government-wide protocol for assessing the costs to society of carbon emissions from the proposed action has failed to take the legally required "hard look." 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 Ninth Circuit Court of Appeals ordered the National Highway Traffic Safety Administration ("NHTSA") to include a monetized benefit for carbon emissions reductions in an EA prepared under NEPA. *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172, 1203 (9th Cir. 2008). NHSTA 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. NHTSA's EA had monetized the employment and sales impacts of the proposed	

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		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 were monetized by the agency although also uncertain. *Id.* at 1202. More recently, a federal court has done likewise for a proposed coal lease modification. *High Country Conservation Advocates v. U.S. Forest Service*, 2014 WL 2922751 (D. Colo. 2014), Slip Op. at 3, citing 40 C.F.R. § 1502.23. As seen below, the SCC is an appropriate tool for quantifying the impacts of projet-level emissions. The social cost of carbon will be significant whenever fossil fuel leasing, or mining, or drilling is proposed. According to the U.S. Environmental Protection Agency ("EPA"), the social cost of carbon is "an estimate of the economic damages associated with a small increase" in emissions. Ex. 13, The Social Cost of Carbon, U.S. Environmental Protection Agency at http://www.epa.gov/climatechange/EPAactivities/economics/scc.html, last checked 7/9/2015. "This dollar figure also represents the value of damages avoided for a small emission reduction." Id. Thus, it would be incorrect to assert that the social cost of carbon cannot be calculated for a project that represents a tiny fraction of global or even a tiny fraction of U.S. emissions. Estimates of the social cost of carbon are designed to do exactly that. In fact, the social cost of carbon is generally expressed in terms of the costs tolled by emitting or the benefits realized by avoiding a single ton of carbon dioxide emissions. However, it is very likely that the social cost of carbon protocol actually	

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		underestimates the true damages exacted on society by carbon pollution. Id. citing the IPCC Fourth Assessment Report. In particular, damages related to social and political conflicts, weather variability, extreme weather, and declining growth rates are either ignored or underestimated. Ex. 14, Omitted Damages: What's Missing from the Social Cost of Carbon, Peter Howard, the Cost of Carbon Project (March 13, 2014). In fact, more recent studies have reported significantly higher carbon costs. For instance, a report published this year 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 Ex. 15, Moore, C.F. and B.D. Delvane, "Temperature impacts on economic growth warrant stringent mitigation policy," Nature Climate Change (January 12, 2015) at 2. Thus, any application of the current social cost of carbon protocol is very likely a significant underestimate of the true cost of carbon pollution. Acknowledging the known tendency to underestimate costs, the federal government has been using its cost---benefit assessment tool since February 2010. See Ex. 16, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact. Analysis -- Under Executive Order 12866 -- Interagency Working Group on Social Cost of Carbon, United States Government (May 2013, Revised July 2015). In the last year alone, the Departments of Agriculture, Energy, Transportation, and Housing and Urban Development and the Environmental Protection Agency and National Highway Traffic Safety Administration have all utilized the Social Cost of Carbon Protocol in public decision making documents. 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	

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		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." Ex. 17, EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011). The BLM has also utilized the social cost of carbon protocol in the context of oil and gas leasing. In recent Environmental Assessments for oil and gas leasing, the agency estimated "the annual SCC [social cost of carbon] associated with potential development on lease sale parcels." Ex. 18, BLM, "Environmental Assessment DOI-BLM-MT-C020-2014-0091-EA, Oil and Gas Lease Parcel, October 21, 2014 Sale" (May 19, 2014) 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 fact, the U.S. Government Accountability Office recently reviewed the process employed to develop the federal government's assessment of the social cost of carbon. Ex. 19, Regulatory Impact Analysis – Social Cost of Carbon Estimates (July 2014). The GAO found that the process employed to develop the 2013 social cost of carbon estimates "used consensus-based decision making," "relied on existing academic literature and models," and "took steps to disclose limitations and incorporate new information." *Id.* In short, while the social cost of carbon protocol, like other economic models, provides only estimates and is subject to further updates as new information becomes available, the federal government's social cost of carbon protocol is a legitimate tool for performing a thorough and honest assessment of both costs and benefits of proposed actions as required under NEPA and E.O. 13514. EPA lists the current social costs of carbon in the following format.	

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		Social Cost of CO2, 2015---2050 a (in 2011 Dollars) Discount Rate and Statistic The SCC values are dollar-year and emissions-year specific. Ex. 20, The Social Cost of Carbon, U.S. Environmental Protection Agency at http://www.epa.gov/climatechange/EPAactivities/economics/scc.html, (last checked 7/9/15). As the table above makes clear, the social costs of carbon pollution are anything but trivial. For example, a project that released a mere 25,000 tons of carbon dioxide in 2025 would be responsible for costs to society, through global warming, of $375,000 to more than $3.75 million for that year's emissions alone. And again, this is very likely an underestimate of true costs. If the economy returns to fast-paced growth and global warming impacts are currently foreseen and properly estimated, the higher discount rates, 5%, and the lower social cost of carbon estimates will be most appropriate. If the economy grows long-term at slower rates and global warming impacts are currently foreseen and properly estimated, the higher social cost of carbon figures, the 2.5 % column, will be better estimates. A middle discount rate value, 3%, for mid-range growth estimates is also available. If, on the other hand, global warming impacts are greater or more costly than current mid-range estimates, the social cost of carbon would be better estimated by the 95th percentile figures. That means that the lowest social cost of carbon numbers are best-case scenarios for both the economy and global warming impacts. The highest numbers are for mid-range economic projections and close to worst-case estimates for global warming impacts.	

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38	WEG	BLM's EAs for the February 2016 Oil and Gas Lease Parcel Sale violate NEPA BLM fails to draw the necessary connection between these projects and increased climate impacts and costs. BLM improperly declines to assess the impacts of climate change, promising to assess them at some unknown time in the future. This violates NEPA's hard look doctrine. Court's have made clear that the leasing stage is an appropriate time to assess impacts that will not be mitigated by lease stipulations, as carbon emissions surely will not. In addition, the project fails to take a hard look at climate impacts to society as contextualized in the social cost of carbon protocol. The costs to society of possibly releasing millions of metric tons of carbon---dioxide equivalent are completely ignored. Thus, application of the Social Cost of Carbon Protocol would arrive at project costs to society up to or exceeding hundreds of millions of dollars. The economic benefits of this project could pale in comparison to its costs. The EA must be modified to analyze the social cost of carbon. This project is one small piece resulting in tremendous cumulative impacts across the Department of the Interior fossil fuel leasing programs. Fossil fuels development on public lands and coastal waters results in more than one and one---half billion tons of carbon dioxide emissions per year. Using 2015 social cost of carbon values, the costs to society of the federal fossil fuel leasing program is between $18 and $177 billion per year. This same level of emissions in 20 years would incur costs from $20 billion to more than a quarter of a trillion dollars per year, depending on the growth of the economy and the intensity of global warming impacts at that time. These costs, of course, do not include costs from air quality issues like smog and mercury emissions, do not include lost opportunity costs from lost recreation, or costs from direct	The preparation of this leasing EA was done in compliance with all Federal rules, regulations, and laws, and is in conformance with NEPA. This leasing EA does not authorize specific actions on the ground; actual projects are covered in subsequent project-level NEPA compliance documents.

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		degradation of ecosystem services. Recall also, that it is very likely that these numbers even represent an underestimate of the true costs to society from global warming. These numbers, while shocking, do no more than reiterate what scientists have been telling us for years: extraction of fossil fuels are costing our society much more than they are providing in benefits. Of course numbers of such an alarming magnitude do not result from the approval of any single project. Instead, they represent the incessant accumulation of costs that result from BLM approving project after project while refusing to acknowledge that those projects have unspoken costs to society, both individually and in the aggregate, that will continue to plague our country for generations. BLM must address the social costs of carbon that are likely to result from these projects.	
39	WEG	The EAs must analyze impacts from fracking waste water, including the possibility of earthquakes produced by underground injection The EAs fail to even acknowledge that waste water from the project might need to be disposed of through underground injection wells. That practice is known or suspected of causing earthquakes in Oklahoma, Texas, Ohio, Pennsylvania, and California and has been restricted for just that reason in some of those areas. BLM must analyze the likelihood of such impacts in Wyoming before they occur. Saline, produced water from wells, when injected into deeper sedimentary formations, appears to lubricate active fault lines. Ex. 21, Oklahoma's recent earthquakes and saltwater disposal, Science Advances (June 18, 2015). In some areas with previously rare earthquake activity, rates have increased ten-fold. It appears that the likelihood of induced seismicity is directly related to the rate of	Since specific lease development operations cannot be reasonably foreseen at the leasing stage, any site specific impacts cannot realistically be analyzed in more detail at this time. Hydraulic Fracturing is a specific development scenario. Should the parcels be sold and development proposed, an analysis of hydraulic fracturing (if proposed) would be contemplated and the impacts to resources affected will also be analyzed under that site specific NEPA document. Incorporated by reference in to the lease sale EA is Appendix E which contains a white paper on Hydraulic Fracturing. Since specific lease development operations

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		injection. High-rate injection is associated with the increase in U.S. mid-continent seismicity, M. Weingarten, et al., Science (June 19, 2015) at http://www.sciencemag.org/content/348/6241/1336. The EAs do not attempt to analyze the degree or frequency of waste water injection. Likewise, no stipulations on such practices are included in the proposed leases. This possible impact must be studied and appropriate stipulations included to prevent these impacts in Wyoming	cannot be reasonably foreseen at the leasing stage, any site specific impacts cannot realistically be analyzed in more detail at this time. At the time of APD proposal, should the parcels be sold and development proposed, an analysis of these resources will be completed.
40	WEG	Conclusion Thank you for the opportunity to provide comments on this project. For the reasons given above, BLM should withdraw both EAs and either supplement them or forgo leasing altogether. It is now clear that the extraction of fossil fuels from public lands is inconsistent with a livable world in the future. The sooner BLM transitions away from this activity, the better it will be for the land it manages and for the American people. Sincerely, Timothy J.Ream, Climate & Energy Campaign Director, tream@wildearthguardians.org, 541-531-8541, WildEarth Guardians, PO Box 641672, San Francisco, CA 94164	Thank you for your comments.